FINAL REPORT

Assessing Mercury and Methylmercury Bioavailability in Sediment Pore Water Using Mercury-Specific Hydrogels

SERDP Project ER-1771

JUNE 2015

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED *(From - To)*
24-06-2015	Final Technical Report	2010-2015

4. TITLE AND SUBTITLE
Assessing Mercury and Methylmercury Bioavailability in Sediment Using Mercury-Specific DGTs

5a. CONTRACT NUMBER
W912HQ-10-C-0069

5b. GRANT NUMBER
ER-1771

5c. PROGRAM ELEMENT NUMBER
NA

6. AUTHOR(S)
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5d. PROJECT NUMBER
ER-1771

5e. TASK NUMBER
NA

5f. WORK UNIT NUMBER
NA

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8. PERFORMING ORGANIZATION REPORT NUMBER
Version 1

9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)
Ramboll Environ US Corporation, 333 W. Wacker Dr., Suite 2700, Chicago, IL 60606

10. SPONSOR/MONITOR'S ACRONYM(S)
NA

11. SPONSOR/MONITOR'S REPORT NUMBER(S)
NA

12. DISTRIBUTION / AVAILABILITY STATEMENT
There are no distribution limitations on this report.

13. SUPPLEMENTARY NOTES
NA

14. ABSTRACT
Our research aims to evaluate the performance diffusive gradients in thin film devices (DGTs) as biomonitoring tools for total (THg) and methylmercury (MeHg) in benthic organisms. Mercury-specific DGTs were developed to measure labile THg and MeHg in sediments. Our research was based on the premise that the porewater and solid phase labile pool of THg and MeHg available to the DGTs is correlated to the bioavailable pool of THg and MeHg in that same matrix. Benthic organisms were codeployed with DGT devices in sediment in a series of laboratory experiments as well as at a marine field site. We analyzed the uptake patterns of THg and MeHg in both the tissue samples and DGT samples and evaluated whether the tissue and DGT data were correlated. Various iterations of these bench-scale experiments were conducted to investigate the performance of the DGTs as biomonitoring tools for a variety of organisms and under a variety of sediment conditions. Overall, it appears that relationships between DGT and tissue data are highly variable and may depend on the sediment characteristics at individual locations. It also appears that neither DGT nor tissue samples are consistently more sensitive than the other with respect to THg or MeHg concentrations in contaminated sediments.

15. SUBJECT TERMS
Mercury, methylmercury, sediment, tissue, DGT, bioavailability, biomonitoring

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			Victor S. Magar
U	U	U	UU	76	19b. TELEPHONE NUMBER *(include area code)* 312-288-3840

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std. Z39.18

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List of Acronyms and Abbreviations

%	percent
%LOI	percent loss on ignition
°C	degrees Celsius
µm	micrometer(s)
µmol g^{-1}	micromole(s) per gram
AVS	acid volatile sulfides
BrCl	bromium chloride
cm	centimeter(s)
cm^2 g^{-1}	square centimeter(s) per gram
CVAFS	cold vapor atomic fluorescence spectrophotometer
DGT	diffusive gradient in thin film device
DoD	Department of Defense
ERDC	Engineer Research and Development Center
Fe(III)	ferric
g	gram(s)
K_{dl}	labile distribution coefficient
L	liter(s)
M	molar
MeHg	methylmercury
mL	milliliter(s)
mm	millimeter(s)
mM	millimolar
mmol g^{-1}	millimole(s) per gram
n	sample size
NA	not analyzed
$NaNO_3$	sodium nitrate
ND	not detected
ng cm^{-2}	nanogram(s) per square centimeter
ng g^{-1}	nanogram(s) per gram
ng/L	nanogram(s) per liter
OC	sediment organic carbon content
ppm	parts per million
ppt	parts per thousand
PSNS	Puget Sound Naval Shipyard
r^2	coefficient of determination
S(-II)	sulfide
THg	total mercury
TOC	total organic carbon
USACE	United States Army Corp of Engineers
USEPA	United States Environmental Protection Agency

Keywords
Mercury, methylmercury, sediment, tissue, DGT, bioavailability, biomonitoring

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Acknowledgements
Funding for this work was provided by a grant from the Strategic Environmental Research and Development Program (SERDP) project ER-1771.

Abstract

The research presented in this report aims to evaluate the performance of passive samplers, called diffusive gradients in thin film devices (DGTs), as biomonitoring tools for total (THg) and methylmercury (MeHg) in benthic organisms. Mercury-specific DGTs were developed to measure labile THg and MeHg in sediments. Our research was based on the premise that the porewater and solid phase labile pool of THg and MeHg available to the DGTs is correlated to the bioavailable pool of THg and MeHg in that same matrix. To test our hypothesis, we conducted a series of bench-scale laboratory experiments where benthic organisms were codeployed with DGT devices in a series of exposure vessels containing sediment. We then analyzed the uptake patterns of THg and MeHg in both the tissue samples and DGT samples and evaluated whether the tissue and DGT data were correlated. Various iterations of these bench-scale experiments were conducted to investigate the performance of the DGTs as biomonitoring tools for a variety of organisms and under a variety of sediment conditions (i.e., salinity, sediment organic carbon content, and sediment THg concentrations). In addition, DGTs were deployed at a marine field site in Washington. In some of our experiments we noted a very close correlation between the DGTs data and the tissue data. However, several experiments indicated much weaker correlative relationships; DGTs appeared to be capable of taking up THg and MeHg in cases where no statistically significant uptake was observed by the organisms, though the reverse was noted in one of the experiments. Overall, it appears that relationships between DGT and tissue data are highly variable and may depend on the sediment characteristics at individual locations. It also appears that neither DGT nor tissue samples are consistently more sensitive than the other with respect to THg or MeHg concentrations in contaminated sediments. This diminishes the utility of DGT devices, as currently configured, as potential off-the-shelf direct biomonitoring tools for THg and MeHg. Future research should focus on developing a deeper understanding of the relationship between DGT and tissue data, including a closer look at the effects of mercury speciation and complexation, as well as continued work employing DGTs as mercury porewater samplers.

1. Objective

This project addresses SERDP Statement of Need ERSON-10-04, *Improved Fundamental Understanding of Contaminant Bioavailability in Aquatic Sediments*. The primary objective of this project was to develop engineering tools (diffusive gradient in thin film devices [DGTs]) for more cost effective assessment of total mercury (THg) and methylmercury (MeHg) bioavailability in sediment. The study uses laboratory syntheses, experimental manipulations, analytical techniques, numerical modeling, and laboratory and field deployments to examine the nexus between chemical lability, as defined by the kinetics of THg and MeHg uptake by the DGTs, and chemical bioavailability, as defined by the extent to which THg and MeHg are available to benthic fauna. The specific objective was to examine the extent to which DGT data are representative of tissue residue concentrations in benthic invertebrates.

2. Background

As contaminated sediment sites in freshwater and marine environments fall under increasing scrutiny, and the ecological importance of these sites is better understood, the number of Department of Defense (DoD) sites requiring sediment management is increasing. Because sediment management goals should address ecological concerns, including exposure and risk, it is important to develop guidelines for documenting successful risk reduction. For sediment sites, risk reduction is achieved primarily by reducing chemical availability in the biologically active zone of sediments, thereby mitigating or eliminating potential exposure pathways. Successful achievement of this target goal may be limited, however, by an incomplete understanding of chemical bioavailability.

The uncertainties related to chemical bioavailability are of particular concern for mercury-impacted sites because the relationship between sediment THg concentration and MeHg production rate is poorly understood. Furthermore, we do not have a complete understanding of what fractions of mercury species are bioavailable. United States Environmental Protection Agency's (USEPA's) equilibrium partitioning theory for metals predicts that the biological effect of a chemical is more directly correlated with its porewater concentration and not with the whole sediment chemical concentration (USEPA 2005). Despite this understanding, current methods of predicting THg and MeHg bioavailability continue to rely on theoretical equilibrium partitioning coefficients and whole sediment chemical concentrations. In cases where theoretical coefficients do not accurately reflect THg or MeHg partitioning, the over- or under-prediction of porewater concentration may result, in turn, in over- or under-predicting chemical bioavailability and corresponding risk, possibly by orders of magnitude. Furthermore, traditional measurements of THg and MeHg in porewater (e.g., sample centrifugation and filtration) may not accurately predict dissolved phase THg and MeHg concentrations and bioavailability (Hsu-Kim et al., 2013). The development of improved methods for estimating chemical bioavailability would therefore allow for more accurate site-specific measurements of risk. Our research evaluated the effectiveness of DGTs as predictors of bioavailability of THg and MeHg in sediment.

Prior to the initiation of our work, DGTs had been primarily used in surface water applications for metals, such as zinc, cadmium, manganese, iron, and copper (e.g., Zhang and Davison 1995, Gimpel et al. 2003); little-to-no research had been done in aquatic sediment for THg or MeHg. Difficulties in the use of conventional DGTs to study the lability of mercury included the low

concentration of THg and MeHg in porewater (typically in the parts per trillion concentration range), and the non-specificity of the cation-exchange resins used for metal uptake toward "soft" metals such as mercury (Docekalova and Divis 2005, Divis et al. 2005). Research had demonstrated the high specificity of thiol-functionalized resins for either treatment or characterization of mercury-impacted waters and sediments (Merritt and Amirbahman 2007, Mercier and Detellier 1995, Mercier and Pinnavaia 1998, Merrifield et al. 2004). With respect to sediment chemistry, preliminary research suggested that thiol-functionalization is a promising strategy for improving the applicability of DGTs for assessment of aqueous phase THg and MeHg lability (Docekalova and Divis 2005, Divis et al. 2005, Clarisse and Hintelmann 2006). Moreover, by providing an integrated measure of aqueous phase THg and MeHg uptake (Best et al. 2008), preliminary research also suggested the utility of DGT devices as biological surrogates (Webb and Keough 2002, Nowack et al. 2004, Schintu et al. 2008, Clarisse et al. 2012). As a biological surrogate, the DGT technique would have important utility for assessing THg and MeHg bioavailability to infaunal species, as well as providing sound data for making integrated risk-management and monitoring decisions.

3. Materials and Methods

3.1 DGT Production

The DGT devices used in our experiments consist of three principal components: a diffusive gel, a resin gel, and a membrane. Gel synthesis is based on the laboratory procedures for the synthesis of polyacrylamide electrophoresis gels (Clarisse and Hintelmann 2006); although, instead of polyacrylamide, we used agarose-based gels (Docekalova and Divis 2005) with our tests. Agarose sorbed less inorganic mercury compared to polyacrylamide gels (2.5±0.1 percent [%] versus 24.6±1.8%) and achieved similar results with MeHg (<5%). The diffusive gel is formed by adding 0.34 grams (g) agarose (Sigma) to 22.5 milliliters (mL) MilliQ water and heating in a boiling water bath while stirring for 10 minutes. The dissolved agarose gel solution is pipetted between two glass plates heated to 55 degrees Celsius (°C) and separated by a 0.75 millimeter (mm) polystyrene spacer and is allowed to set for 45 minutes to achieve its gelling temperature of 36°C. Diffusive gels are either cut to 6 centimeters (cm) x 9 cm pieces for paddle-type DGTs or 2.5 cm diameter disks for piston-type DGTs. Paddle-type DGTs are used for depth sampling, measuring down to 8 cm, and piston-type DGTs are used for sampling the sediment surface (**Figure 1**). Diffusive gels are hydrated in MilliQ water for 24 hours, then stored in 0.1 molar (M) sodium nitrate ($NaNO_3$) until DGT assembly.

We used 3-mercapto-propyl-functionalized silica (Aldrich or Biotage) with a concentration of 1.2 millimoles (functionalized thiol groups) per gram (mmol g^{-1}) as the mercury-binding agent in the sorptive resin. The resin gel is formed by adding 0.18 g agarose and 1.68 g 3-mercapto-propyl functionalized silica gel to 12 mL MilliQ water and heating in a boiling water bath while stirring for 10 minutes. The dissolved resin gel solution is pipetted between two glass plates heated to 55°C and separated by a 0.4 mm polystyrene spacer, and is also allowed to set for 45 minutes. Resin gels are either cut to 3 cm x 9 cm for paddle-type DGTs or 2.5 cm disks for piston-type DGTs. For the paddle-type DGTs, two resin gels are placed side-by-side, one for THg analysis and one for MeHg analysis. Resin gels are also hydrated in MilliQ water for 24 hours then stored in 0.1 M $NaNO_3$ until DGT assembly.

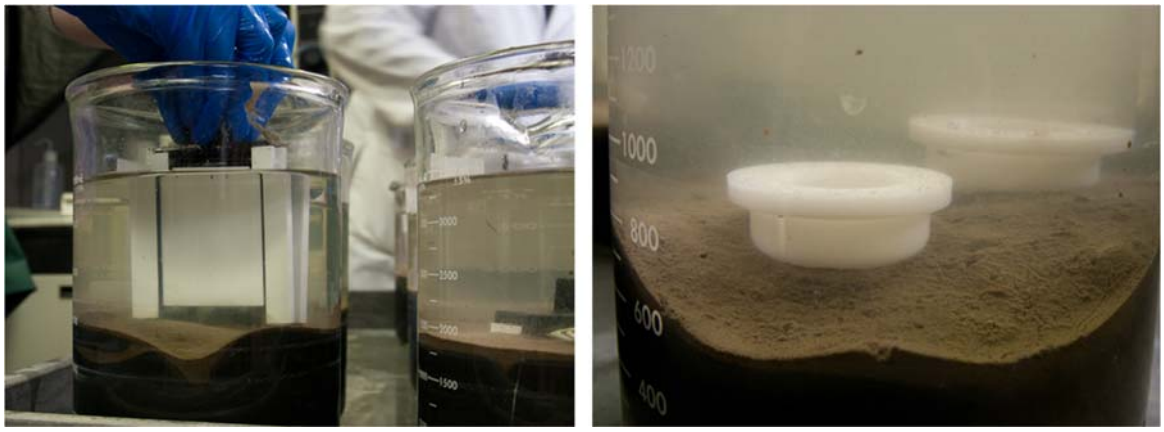


Figure 1. Paddle-type (left) and piston-type (right) DGTs in laboratory sediment deployment experiments

The DGT is assembled as follows: resin gel, diffusive gel, and polysulfone membrane (Tuffryn HT-450; 0.45 micrometer (µm) pore size, cut to the dimensions of the diffusive gel); all placed in successive layers into the bottom of the DGT frame and secured in place with a window plate (Zhang et al. 2003). **Figure 2** depicts a schematic of a paddle type DGT device used in our experiments. Assembled DGTs are stored in 0.1 M $NaNO_3$ until deployment. DGT synthesis, assembly, and deployment procedures are provided in **Appendix C1**.

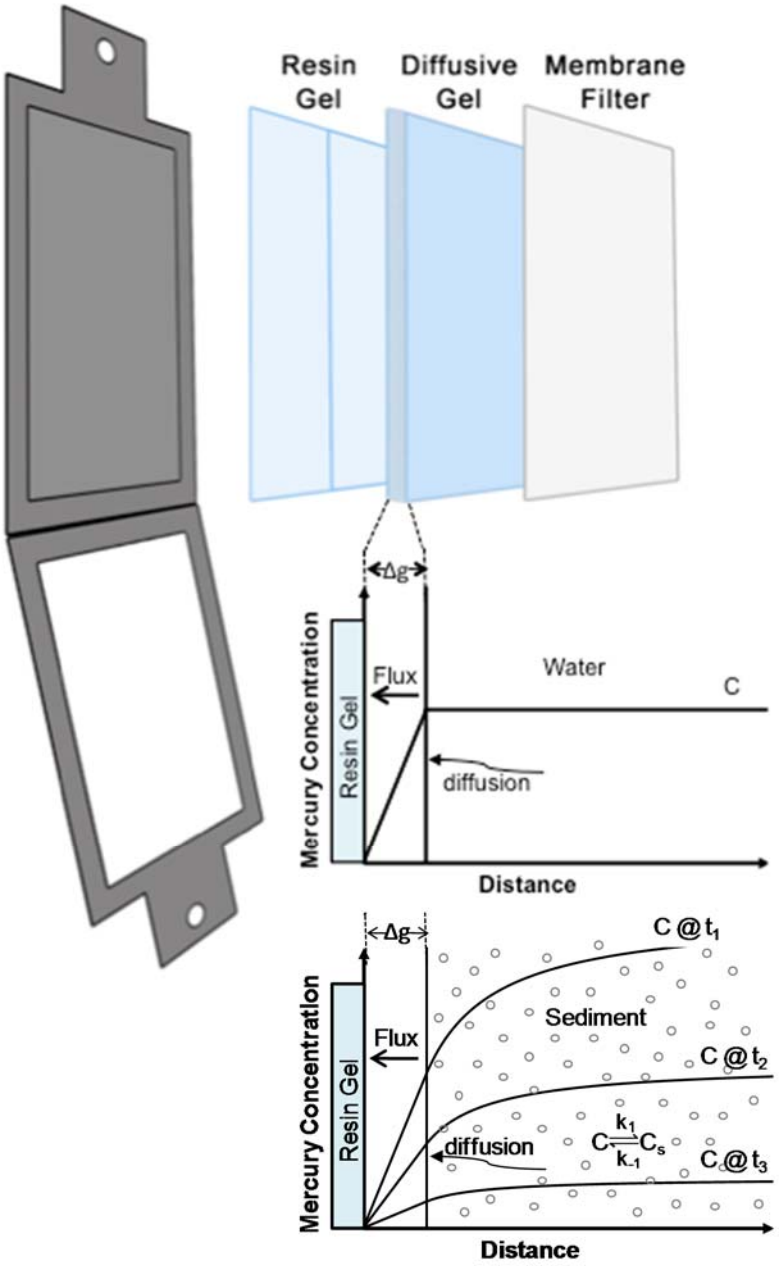


Figure 2. DGT schematic with theoretical metal diffusion from well-mixed surface water (top graph) or from sediment porewater (bottom graph) through the diffusive gel to the resin gel. In well-mixed surface water, metal concentration at the DGT-water interface is constant regardless of the mass of metal taken up. In sediment, depending on the lability of the sediment-bound metal, porewater metal concentration adjacent to the DGT is lowered, inducing metal resupply from the solid phase to porewater. If the sorbed metal is not very labile, then concentration drawdown would be sharp (e.g., from t_1 to t_2 to t_3). If the sorbed metal is very labile, then concentration drawdown would be negligible and concentration profile looks like that of well-mixed water.

3.2 Preliminary Sediment Lability Experiment

A preliminary DGT deployment experiment was conducted to evaluate whether our DGT devices could measure sediment lability of THg and MeHg with reasonable accuracy (Amirbahman et al. 2013). For this experiment, DGTs were prepared following the methods in **Section 3.1**; however, diffusive gels were cast with a 0.4 mm spacer. Paddle-type DGTs were deployed in intertidal sediments collected from the Penobscot River estuary in Winterport, ME. Sediments were equilibrated to the ambient laboratory temperature in 1 liter (L) Teflon beakers. DGTs were deoxygenated using nitrogen gas for 48 hours to prevent methylmercury from demethylating under oxic conditions within the DGT. Following deoxygenation, two DGTs were deployed vertically in the sediment of each beaker, facing outward. DGTs were removed on days 2, 5, 10, and 20, and rinsed with MilliQ water. DGTs were extracted and analyzed following the methods described in **Section 3.5**.

3.3 Laboratory Bioavailability Experiments

The primary objective of our research is to evaluate whether DGTs can be used to assess MeHg and THg bioavailability in sediment. To this end, several laboratory experiments were conducted to compare the uptake of THg and MeHg by codeployed DGTs and benthic invertebrates in field-collected sediment. We conducted four series of bench-scale experiments, which we refer to in this document as Experiments A, B, C, and D. Experiments A, B, and C are time series experiments where organisms and DGTs are codeployed in exposure vessels containing homogenized field sediment (see **Appendix C2** for sediment processing procedures) and removed on six distinct retrieval days. Experiment D is an experiment of fixed duration (14 days) conducted in intact sediment cores collected from the field (see **Appendix C3** for intact core collection procedure).

Overlying water was added to the exposure vessels and over the intact cores and aerated throughout the experiments. The exposure vessels or intact cores with overlying water were equilibrated at experimental conditions prior to organism and DGT deployment. DGTs were deoxygenated for 48 hours prior to deployment (see **Appendix C1** for deoxygenation procedure). *Macoma nasuta*, *Nereis virens*, and *Lumbriculus variegatus* used in the laboratory bioavailability experiments were obtained from Aquatic Research Organisms (Hampton, NH). *Leptocheirus plumulosus* were cultured on site at the United States Army Corp of Engineers Engineer Research and Development Center (USACE ERDC, Vicksburg, MS). When two DGTs were deployed in a single exposure vessel, the DGTs were placed back-to-back in the middle of the exposure vessel to avoid diffusion interference between the two DGTs. When two *M. nasuta* were deployed in a single exposure vessel, the two individuals were placed on opposite sides of the vessel. During the exposure period, porewater and sediment parameters were monitored and aeration was adjusted or overlying water was exchanged if parameters did not fall within the specified range for the test organism (see **Appendix C4** for monitoring parameters). Organisms also were monitored for mortality and sediment avoidance behavior throughout the exposure period. Organism replacements were made if deemed necessary, appropriate, and feasible. For all cases, the exposure period for the organisms matched the exposure period for the DGTs.

An experimental matrix listing the variables and parameters for experiments A through D are summarized in **Table 1** below. As an example of the laboratory setup, a schematic of Experiment B is provided in **Figure 3** below.

Table 1. Experimental matrix for laboratory DGT and organism deployment experiments

Parameter	Experiment A	Experiment B	Experiment C	Experiment D[1]
Sediment Source (Site)	Penobscot River, ME	Penobscot River, ME	Dodge Pond, CT	Penobscot River, ME Mid-Atlantic Site
Sediment Type	Estuarine mudflat	Estuarine mudflat, varying organic carbon content B1: 8% OC B2: 4% OC B3: 2% OC B4: 4% OC + AC[2]	Freshwater pond, varying sediment THg C1: 10 ppm THg C2: 4 ppm THg C3:1 ppm THg	Estuarine mudflats
Experimental Setup	Three time series, homogenized sediment (A1, A2, A3)	Four time series, homogenized sediment (B1, B2, B3, B4)	Three time series, homogenized sediment (C1, C2, C3)	Intact cores, single exposure period D1: 12 cores D2: 15 cores
Retrieval Days	A1, A2: 3, 7, 14, 28, 41, 55 A3: 3, 7, 10, 14, 21, 28	3, 7, 14, 21, 28, 35	3, 10, 20, 34, 44, 54	14
Exposure Vessel	A1, A2: 4 L glass beaker, 2 L sediment, 1.5 L overlying water A3: 2 L glass beaker, 0.8 L sediment, 1 L overlying water	1 gallon glass jar, 2 L sediment, 1.5 L overlying water	1 gallon glass jar, 2 L sediment, 1.5 L overlying water	19 cm-tall/15 cm-diameter core placed in 2 gallon bucket, 1 inch overlying water
Exposure Vessel Replicates/ Retrieval Day	2	2	2	1
DGT Type	A1, A2: Paddle A3: Piston	Paddle	Paddle	Paddle
DGTs/Exposure Vessel	1	2	2	1

[1] After observing low tissue uptake of MeHg in Experiment C, a screening step was included in Experiment D. Prior to deploying DGTs and organisms in full-scale exposure experiments, we verified that organisms exposed to the test sediment would take up measureable amounts of MeHg. We did this by deploying test organisms to a subset of exposure vessels without DGTs for 14 days following the test procedures for Experiment D.

[2] 2.5% activated carbon (bag house fines [150 µm non-potable non-food grade mixed coal/coconut powder]; Siemens) was homogenized with the Experiment B4 sediment.

Parameter	Experiment A	Experiment B	Experiment C	Experiment D[1]
Organism(s)	A1: *M. nasuta* A2: *N. virens* A3: *L. plumulosus*	*M. nasuta*	*L. variegatus*	*M. nasuta*
Organisms/ Exposure Vessel	A1, A2: 1 individual A3: 50 individuals composited	2 individuals	1 g composited	1 individual
Sediment Equilibration	2 weeks	3 weeks	3 weeks	2 weeks
Experimental Temperature	A1: 15°C A2, A3: 23°C	15°C	23°C	15°C
Overlying Water	A1, A2: 30 ppt reconstituted seawater A3: 20 ppt reconstituted seawater	30 ppt reconstituted seawater[3]	Dechlorinated tap water	30 ppt reconstituted seawater
Overlying Water Aeration	Bubble	Drip	Drip	Drip
Ancillary Measurements	AVS, %LOI, Sediment THg, Sediment MeHg, Porewater THg, Porewater MeHg	AVS, %LOI, TOC, Sediment THg, Sediment MeHg, Porewater THg, Porewater MeHg	AVS, TOC, Sediment THg, Sediment MeHg, Porewater THg, Porewater MeHg	TOC, Sediment THg, Sediment MeHg, Porewater THg, Porewater MeHg

Notes:

°C: degrees Celsius
%LOI: percent loss on ignition
AC: activated carbon
AVS: acid volatile sulfides
cm: centimeter(s)
g: grams
L: liter
MeHg: methylmercury
OC: sediment organic carbon content
ppm: parts per million
ppt: parts per thousand
THg: total mercury
TOC: total organic carbon

[3] After observing low porewater salinity throughout Experiment A, Crystal Sea® Marinemix was homogenized with sediment in Experiment B to obtain 30 parts per thousand (ppt) porewater salinity.

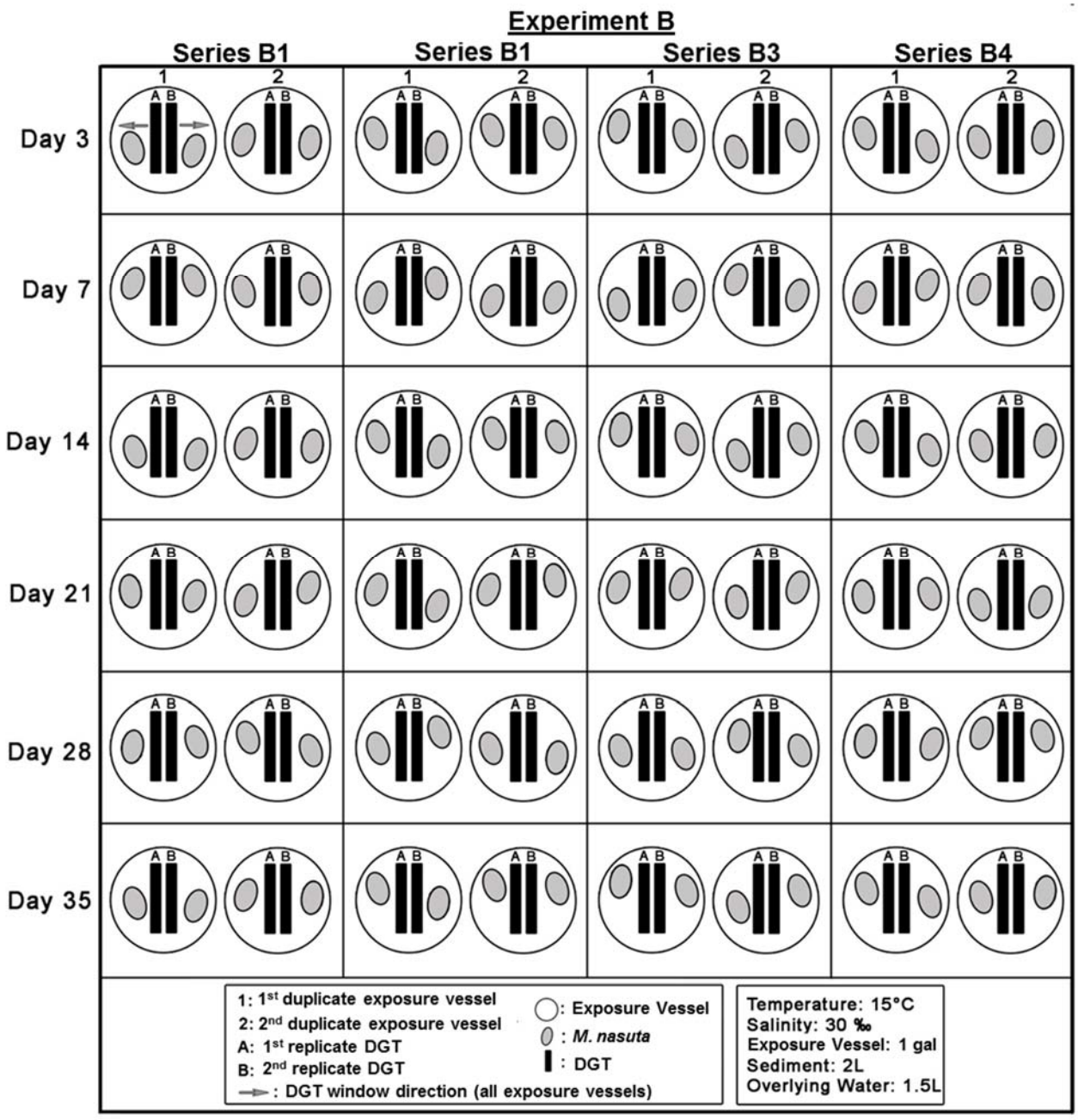


Figure 3. Example laboratory setup schematic (based on Experiment B)

3.4 Field Bioavailability Experiment

DGTs were deployed in conjunction with SERDP project ER-201131 at the Puget Sound Naval Shipyard (PSNS), in Bremerton, WA, in order to test their performance in a field setting. *M. nasuta* and *Nereis arenaceodentata* were deployed alongside the DGTs in sediment at five stations in the vicinity of Pier 7 at the PSNS (See **Appendix C5** for field deployment procedures). DGTs were deoxygenated using ultra pure nitrogen gas starting two days prior to

deployment at ENVIRON's Port Gamble lab[4]. The morning of deployment, DGT deoxygenation bottles were sealed with tape and transported from Port Gamble to PSNS where they were reconnected to nitrogen to continue deoxygenation. Minutes prior to deployment, three DGTs were strung together with ¼ inch diameter nylon shock cord through holes at the top of the DGTs, placed in a zip-top bag, and handed to the divers. The divers deployed the DGTs, gently inserting them vertically in the sediment and ensuring that the window of the DGTs were not facing each other. DGTs were deployed at stations where other matrices would be analyzed for THg and MeHg. DGTs were deployed at Stations 3-MM, 4-MM, 5-MM, and 8-MM on July 1, 2014. Following deployment on July 1st, remaining DGTs were transported back to Port Gamble to continue deoxygenation overnight, and the same deployment process was repeated on July 2nd for Station 9-MM. Three blank DGT device samples were also collected on July 2nd. Following 14 days of deployment, the DGTs were retrieved by the divers, rinsed with Milli-Q water, and frozen within minutes. The DGTs were transported to the Port Gamble lab for processing and remained frozen until analysis. DGTs were analyzed for THg and MeHg with four exceptions: only MeHg was analyzed in PS1-03-1B and PS1-09-1A and analyses were not conducted for PS1-03-1A and PS1-04-1A due to extensive damage to the filter paper indicating compromised DGT samplers (see **Figure 4**).

Figure 4. Damage to DGT sampler from field deployment

3.5 Extraction and Analysis of THg and MeHg

THg and MeHg were extracted from the DGTs as follows: half of the DGT resin gel was placed in 50 mL of 10% bromium chloride (BrCl) for 24 hours to extract THg, and the other half was placed in 50 mL of 1.3 millimolar (mM) thiourea in 0.1 M HCl to extract MeHg for 24 hours (Clarisse and Hintelmann 2006). In independent experiments (Amirbahman unpublished), we showed that recoveries were 101.0±0.2% for THg and 85±2% for MeHg using these extraction procedures. Tissue and sediment THg extraction and DGT and porewater THg analysis followed standard guidance (USEPA 2001). Tissue THg analysis was performed using a Brooks Rand Model III cold vapor atomic fluorescence spectrophotometer (CVAFS) mercury analyzer. Sediment, DGT, and porewater THg analyses were performed using a Brooks Rand MERX-T CVAFS mercury analyzer. Tissue and sediment MeHg were extracted using a modified USEPA Method 1630 (USEPA 1998) for solid matrices (Brooks Rand Labs 2013). DGT and porewater

[4] Following the first night of deoxygenation, the nitrogen was accidently shut off and was turned back on as soon as this was discovered. Following this correction, the DGTs continued to deoxygenate for 24 hours without further interruptions.

MeHg samples were distilled following USEPA Method 1630 (USEPA 1998). All MeHg analyses were performed using a Brooks Rand MERX-M CVAFS mercury analyzer.

3.6 Ancillary Measurements

Sediment samples were analyzed for percent loss on ignition (%LOI), acid volatile sulfides (AVS), and total organic carbon (TOC). Samples for %LOI analysis were taken from the entire depth of the field collection buckets after homogenization and prior to transferring the sediment to the exposure vessels, and therefore are assumed to represent a depth-integrated average. AVS and TOC samples were collected from the entire depth of the exposure vessels at the start and/or end of the experiments. AVS and %LOI were analyzed following the methods in Amirbahman et al. 2013. The sediment TOC was determined in accordance with USEPA Method 9060 (USEPA 1999).

3.7 Statistical Analysis Methods

The data generated by our research was used to evaluate whether: (1) a relationship or correlation exists between THg and MeHg uptake in DGTs and THg and MeHg uptake in organisms, and, if so, (2) the nature of that relationship.

For the time-series data sets (Experiments A, B, and C), we first determined whether statistically significant uptake was observed in tissue and DGT data, individually. For each time-series experiment, all collected data points were plotted on a graph and a linear regression model was run to compute the slope of the trend line and corresponding p-value. We used a slope of zero (i.e. no uptake) as the null hypothesis of our statistical test for uptake, with an alternative hypothesis of a positive slope (i.e. uptake).

Where uptake was demonstrated in both the tissue and DGT data sets for a particular analyte and experimental series, the arithmetic average DGT and tissue concentrations across all replicates and duplicates were plotted against each other for each of the six time points. To evaluate correlation between the (day-averaged) DGT and organism data sets, simple linear regression was again applied, and coefficients of determination (r^2) were computed. In addition, we computed the slope of the trend line, and the 95% confidence limits of the slope, as well as the intercept. We used a slope of zero (i.e. no relationship) as the null hypothesis of our statistical test for a relationship, with an alternative hypothesis of a positive slope (i.e. a positive relationship). Following the completion of Experiments A through D, and completion of the field experiment, a comparison of the slopes was performed to evaluate quantitatively, whether differences exist in the relationship of tissue and DGT concentrations under varying conditions (see **Section 4.7**).

4. Results and Discussion

4.1 Preliminary Sediment Lability Experiment

Prior to our research, DGTs had not commonly been used to assess THg and MeHg lability in sediment and correlate that to their bioavailability to benthic organisms. To meet our research objectives of determining whether DGTs could be used as biomonitoring tools for THg and MeHg in sediments we developed customized DGT devices for measuring THg and MeHg lability in sediment (see **Section 3.1** for DGT production procedures). To evaluate the performance of these DGTs, they were deployed as a time series in sediment for 2, 5, 10, and 20 days. Results from this experiment were used to determine the rate of mercury adsorption to and desorption from the sediment and to characterize the labile fraction of sediment mercury. The results of this experiment and subsequent modeling (previously published in Amirbahman et al. 2013) indicated close correspondence of the model outputs (labile distribution coefficient, K_{dl}) with literature values (Merritt and Amirbahman 2007). Therefore, we concluded that the DGTs customized for our experiments adequately characterize mercury lability in sediment.

4.2 Laboratory Experiment A

In Experiment A, we deployed three organisms with separate feeding strategies (A1-*M. nasuta*, A2-*N. virens*, and A3-*L. plumulosus*) together with DGTs in a series of exposure vessels containing estuarine sediment from the Penobscot River in Maine. Correlation between tissue and DGT data was good for *M. nasuta* and *L. plumulosus*, but less so for *N. virens*, which physically damaged the DGTs and oxygenated the DGT-sediment interface. Experiment A is the topic of Amirbahman et al. 2013.

4.2.1 Sediment Characteristics

Sediment was homogenized before distributing among exposure vessels for the A1, A2, and A3 series in an effort to provide uniform sediment at the start of the experiment. Sediment and porewater samples were collected on day 0 and the final experimental day (day 55 for A1 and A2 series, day 28 for A3 series) for THg and MeHg analyses. Average sediment and blank corrected porewater results for each of the series in Experiment A are shown in **Table 2**. Based on the fact that all sediment was homogenized prior to being distributed into the exposure vessels and the good correspondence in porewater MeHg data, we hypothesize that the elevated THg in A3 porewater is likely due to entrained particles.

Table 2. Average (±standard deviation) sediment and blank-corrected porewater results by series for Experiment A

Analyte	A1	A2	A3
Porewater			
THg (ng/L)	4.9±7.3	2.3±8.1	25.4±28
MeHg (ng/L)	1.4±1.1	1.7±1	1.6±0.5
Sediment			
THg (ng g^{-1})	847±86	785±77	577±103
MeHg (ng g^{-1})	21.1±3.5	15.8±2.9	12.5±4.8
AVS (µmol g^{-1})	31.9±5.2	23.3±6.8	NA
LOI (%)		12.8±1.6	

µmol g^{-1}: micromole(s) per gram
ng g^{-1}: nanogram(s) per gram
NA: not analyzed
ng/L: nanogram(s) per liter

4.2.2 Time Series Exposure

Experiment A time series for THg and MeHg are shown in **Figure 5**. As described by Amirbahman et al. (2013), both DGT and tissue data for A1 indicated rapid uptake of THg until an apparent plateau at day 14. MeHg reached the maximum on day 28 in DGT and tissue and then appears to decrease slightly, though metal uptake by the DGT is known to be irreversible (Zhang et al. 1998, Scally et al. 2003). THg and MeHg concentrations in DGTs and tissue in Experiment A2 (*N. virens*) increased until only day 7, after which they reached apparent steady state. Following day 28, THg and MeHg in DGTs decreased until the end of the experiment, while tissue THg increased significantly compared to steady state. As explained by Amirbahman et al. (2013), the earlier steady state when compared to Experiments A1 and A3 may be due to bioturbation and bioirrigation caused by the organisms. Oxygen can be introduced to the normally anoxic sediment due to the organism's activity, potentially oxidizing AVS and producing high-surface area ferric (Fe(III)) hydroxide that can remove porewater solutes (Kristensen 2001). Bioirrigation may also promote MeHg efflux to the overlying water (Benoit et al. 2009). We observed lower sediment AVS in A2 (23.3 ± 6.8 micromoles per gram [µmol g^{-1}]) compared to A1 (31.9 ± 5.2 µmol g^{-1}) on day 55 indicating that the *N. virens* likely does promote sediment oxidation. Due to the high degree of mobility of *N. virens* in the exposure vessels, the DGT paddles were continuously physically displaced, their protective filter papers were torn and the resin gel was exposed, especially after day 28. We attribute the observed decrease in mercury species concentrations in the DGTs at least partly to the damage incurred by the DGT. The observed decrease in MeHg may also be due to demethylation or sulfide [S(-II)] complexation following a long-term deployment. THg and MeHg tissue (*L. plumulosus*) uptake patterns in Experiment A3 were similar to A1, with steady state reached at 14 days. Piston-type DGTs were used in A3 to measure THg and MeHg at the sediment surface.

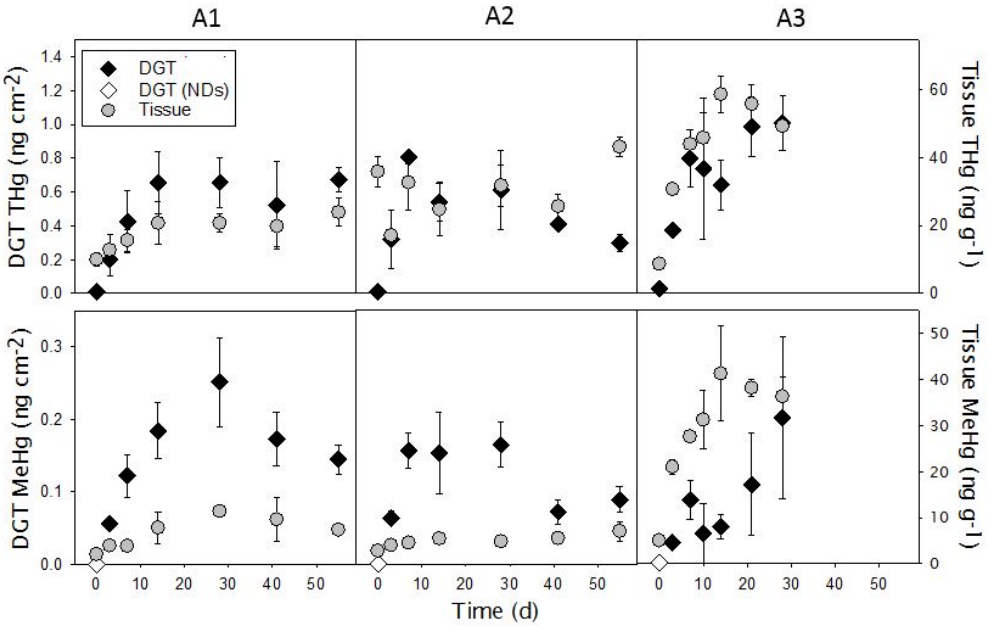


Figure 5. Experiment A day average (±standard deviation) THg and MeHg time series for DGT (in nanogram(s) per square centimeter [ng cm^{-2}]) and tissue (A1-*M. nasuta*, A2-*N. virens*, A3-*L. plumulosus*)

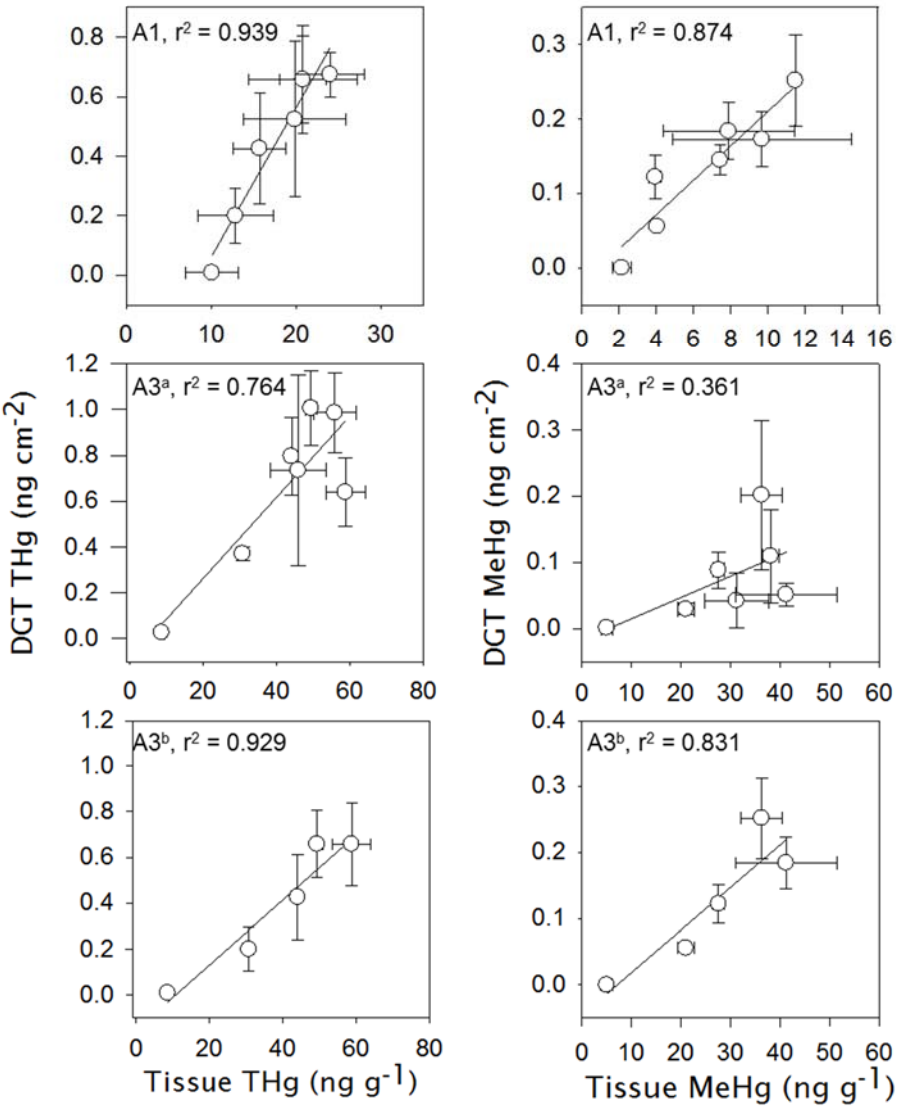
Simple linear regression modeling indicates that tissue and DGTs took up statistically significant amounts of MeHg and THg over the course of Experiments A1 and A3, but not in Experiment A2 (see **Table 3**).

Table 3. p-values for THg and MeHg uptake in Experiment A

p-value (non-zero slope)	THg		MeHg	
	DGT	Tissue	DGT	Tissue
A1	<0.001*	0.005*	0.007*	0.020*
A2	0.861	0.147	0.722	0.002*
A3	<0.001*	0.003*	<0.001*	0.002*

***** denotes statistical significance at the 95% confidence level ($p < 0.05$)

Figure 6 graphically depicts the relationship between day-averaged DGT and tissue data for THg and MeHg in Experiments A1 and A3. We hypothesize that the poor correlation between tissue and piston-type DGT results in Experiment A3 is an artifact of the experimental set-up. Amirbahman et al. (2013) explain that the process of aerating the overlying water may cause oxic conditions near the sediment surface, which may result in demethylation of MeHg and a low uptake rate of MeHg by piston-type DGTs. Although *L. plumulosus* dwell and feed near the sediment surface, our results show that piston-type DGTs placed at the sediment surface are not a good predictor of *L. plumulosus* THg and MeHg bioaccumulation. Because the sediment used in all the A-series experiments originates from the same homogenized source, we compared the A1



paddle-type DGT data to the A3 tissue data and found a much stronger relationship.

Figure 6. Experiment A day average (±standard deviation) DGT versus tissue plots (A1-*M. nasuta*, A3[a]-*L. plumulosus* versus piston-type DGTs, A3[b]-*L. plumulosus* versus paddle-type DGTs)

Table 4 summarizes r^2, the slope and its 95% confidence interval, and the trend line intercept. The correlations between day-averaged DGT and tissue concentrations in A1 and A3 suggest that the paddle-type DGT is a good indicator of *M. nasuta* and *L. plumulosus* uptake of THg and MeHg under these exposure conditions.

Table 4. Experiment A slope ± 95% confidence intervals (in square centimeters per gram [cm^2 g^{-1}], trend line intercepts, and coefficients of determination for time series exhibiting significant uptake (A1-*M. nasuta*, A3[a]-*L. plumulosus* versus piston-type DGTs, A3[b]-*L. plumulosus* versus paddle-type DGTs)

Series		Slope ± 95% Confidence Interval (cm^2 g^{-1})	Intercept	r^2
THg				
	A1	18.7±4	9.3	0.939
	A3[a]	43.1±22	13.8	0.764
	A3[b]	65.7±25	12.7	0.929
MeHg				
	A1	37.9±13	1.6	0.874
	A3[a]	112.4±135	20.3	0.361
	A3[b]	129.5±79	10.3	0.831

4.3 Laboratory Experiment B

Due to the significant positive correlations of *M. nasuta* and paddle-type DGTs in the A1 series, we selected *M. nasuta* for our Experiment B deployments. Experiment B consists of a series of exposure vessels containing estuarine sediments from the Penobscot River in Maine with varying sediment organic carbon contents (B1-8%, B2-4%, B3-2%, and B4-4% with 2.5% activated carbon amendment). Correlation between tissue and DGT data was good in the B1 and B2 series, but generally lower than the previous *M. nasuta* experiment (Experiment A1).

4.3.1 Sediment Characteristics

Sediment was homogenized by series before distributing among exposure vessels for the B1, B2, B3, and B4 series in an effort to provide homogeneous sediment at the start of the experiment. Sediment samples were collected on day 0 and day 35, and porewater samples were collected on day 35 for THg and MeHg analyses. Average sediment and blank corrected porewater results for each of the series in Experiment B are shown in **Table 5**. In non-amended sediments, sediment THg and MeHg increased with increasing TOC. In contrast, porewater THg decreased with increasing sediment TOC. The negative correlation between porewater and sediment THg is attributed to the covariance between sediment THg and TOC, demonstrated in previous studies (Hammerschmidt et al. 2004). The lower porewater THg concentration in the amended sediment (B4) is expected as activated carbon may be able to reduce porewater concentrations by binding THg on the activated carbon surface or adsorbing dissolved organic matter, making it unavailable for THg mobilization from the solid-phase (Bessinger and Marks 2010).

Table 5. Average (±standard deviation) sediment and blank-corrected porewater results by series for Experiment B. The porewater THg, porewater MeHg, and sediment LOI concentrations are based on one sample per series

Analyte	B1	B2	B3	B4
Porewater				
THg (ng/L)	79.6	119.8	502.8	-39.1
MeHg (ng/L)	ND[a]	ND[a]	ND[a]	ND[a]
Sediment				
THg (ng g^{-1})	1045±49	414±14.1	246±28.3	160±9.9
MeHg (ng g^{-1})	9.1±1.2	5.8±0.2	3.1±0.1	1.6±0.3
AVS (µmol g^{-1})	7±0.7	2.6±0.5	0.24±0.2	0.04±0.04
LOI (%)	19.4	7	4.5	6.8
TOC (%)	7.7±0.1	3.6±0.3	1.7±0.6	3.9±0.1

a. Porewater MeHg detection limits ranged from 0.02 to 0.09 ng/L

ND: not detected

4.3.2 Time Series Exposure

Experiment B time series for THg and MeHg are shown in **Figure 7**. The uptake patterns in Experiment B appeared contrary to the expected rapid uptake of metals initially present in porewater by the DGT (Zhang and Davison 1995). Specifically, we did not observe an initial rapid uptake followed by a decrease in uptake rate. Rather, THg and MeHg concentrations

increased slowly through the initial 1-2 weeks, after which concentrations appeared to increase more rapidly. This apparent uptake pattern is observed in both tissue and DGT samples, though it is more pronounced in the DGT data. The deviation from previous observations and mathematical model predictions is likely caused by significant changes in sediment geochemical conditions over the course of the experiment (i.e. non-equilibrium conditions), possibly due to the blending of the Crystal Sea® Marinemix directly into the sediment slurry three weeks prior to the start of the experiment.[5] The artificial sea salt mixture may have behaved as a mild oxidant, and the three-week incubation period may have been inadequate to reach redox equilibrium conditions.

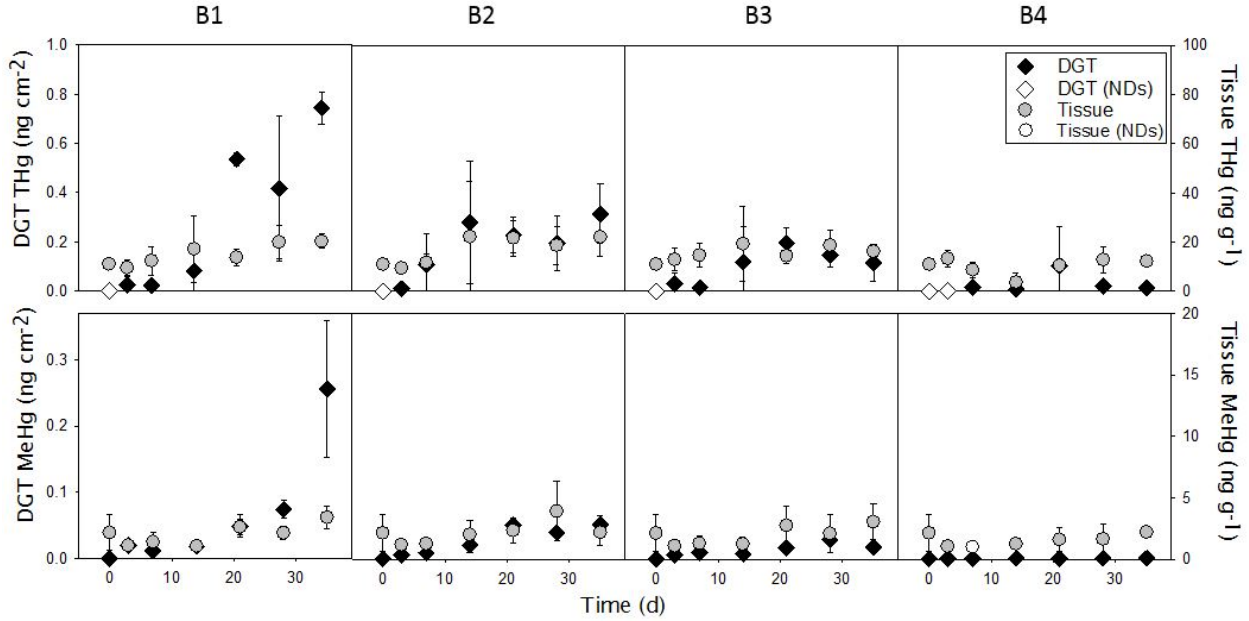


Figure 7. Experiment B day average (±standard deviation) THg and MeHg time series for DGT and tissue plots (*M. nasuta*)

Simple linear regression modeling indicates that tissue and DGTs took up statistically significant amounts of MeHg and THg over the course of Experiments B1 and B2 and took up statistically significant amounts for MeHg only in Experiment B3 (see **Table 6**). The lack of significant uptake in *M. nasuta* in B3 (THg only) and B4 (both THg and MeHg) may be due to the relatively low sediment THg concentrations (B3: 246±28 ng g^{-1}; B4: 160±9.9 ng g^{-1}), as there may not have been enough bioavailable THg and MeHg to significantly bioaccumulate above the baseline mercury concentrations in the clams. This observation is consistent with the results of a bioaccumulation study in San Francisco Bay, where significant uptake of THg was not observed in *M. nasuta* or polychaetes (*Nephtys caecoides* and *N. virens*) exposed to sediment with THg concentrations lower than 500 ng g^{-1} (USEPA 2012).

[5] In Experiments A1 and A2, overlying water salinity decreased from 30‰ at the start of the experiments to approximately 20‰ at the end of the experiment due to lower porewater salinity. We blended Crystal Sea® Marinemix directly into the sediment slurry in Experiment B in an effort to keep porewater and overlying water salinity consistent at 30‰.

Table 6. p-values for THg and MeHg uptake kinetics for Experiment B

p-value (non-zero slope)	THg		MeHg	
	DGT	***M. nasuta***	**DGT**	***M. nasuta***
B1	1.9e-07*	9.4e-03*	4.3e-06*	3.7e-03*
B2	8.6e-04*	3.0e-02*	3.3e-09*	4.7e-02*
B3	2.4e-03*	2.4e-01	7.4e-06*	2.3e-02*
B4	4.0e-01	8.4e-01	1.6e-02*	4.9e-01

***** denotes statistical significance at the 95% confidence level ($p < 0.05$)

Figure 8 graphically depicts the relationship between day-averaged DGT and tissue data for THg and MeHg in Experiments B1 and B2 and MeHg in Experiment B3. In all cases, a positive relationship exists between DGT uptake and tissue uptake, with varying degrees of "goodness-of-fit."

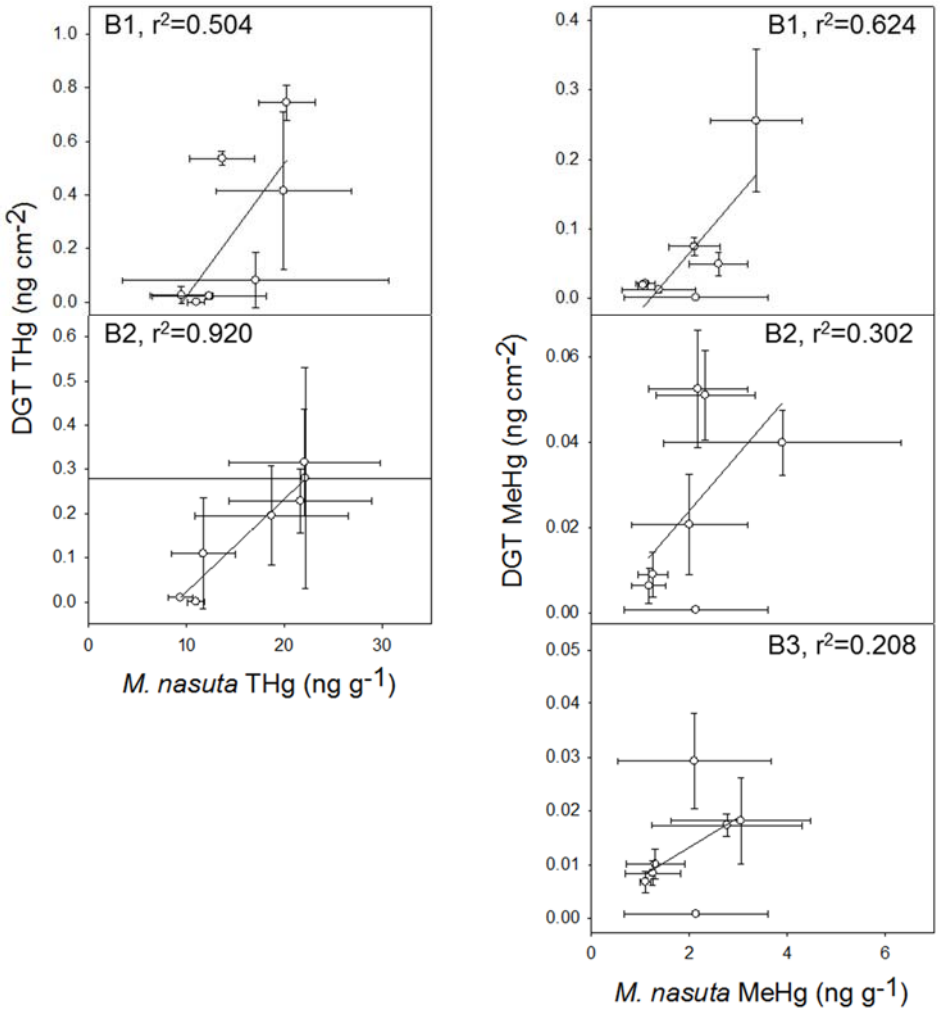


Figure 8. Experiment B day average (±standard deviation) DGT versus tissue plots (*M. nasuta*)

Table 7 summarizes r^2, the slope and its 95% confidence interval, and the trend line intercept. Correlation on a day-averaged basis was highest for B2 THg, followed by B1 MeHg and THg. Lower correlations in Experiment B compared to Experiment A may be due to the non-equilibrium conditions in the sediment as well as lower sediment THg concentrations.

Table 7. Experiment B slope ± 95% confidence intervals, trend line intercepts, and coefficients of determination for time series exhibiting significant uptake in both tissue and DGT

Series		Slope ± 95% Confidence Interval (cm^2 g^{-1})	Intercept	r^2
THg				
	B1	10.1±9	12.1	0.504
	B2	43.8±12	9.5	0.920
MeHg				
	B1	7.6±5	1.5	0.624
	B2	22.7±31	1.6	0.302
	B3	37.5±66	1.5	0.208

4.4 Laboratory Experiment C

In Experiment C, we deployed *L. variegatus* together with DGTs in a series of exposure vessels containing freshwater sediments from Dodge Pond (Connecticut, USA) with varying sediment THg concentrations (C1: 10 parts per million [ppm], C2: 4 ppm, C3: 1 ppm). Correlation between tissue and DGT data was good for THg, but no material amounts of MeHg were observed in tissue samples, despite observing clear MeHg uptake in the DGTs.

4.4.1 Sediment Characteristics

Sediment was homogenized by series before distributing among exposure vessels for the C1, C2, and C3 series in an effort to provide homogeneous sediment at the start of the experiment. Sediment and porewater samples were collected on day 0 and day 54 for THg and MeHg analyses. Average sediment and blank-corrected porewater results for each series in Experiment C are shown in **Table 8**. Trends in porewater THg did not follow those in sediment. The porewater MeHg concentrations in Experiment C were all below detection limits and sediment MeHg concentrations were, on average, an order of magnitude lower than Experiments A and B. This is an indication that, although THg concentrations are elevated, the conditions in the freshwater sediments of Experiment C were not as conducive to MeHg production compared to the estuarine sediments of Experiments A and B.

Table 8. Average (±standard deviation) sediment and blank-corrected porewater results by series for Experiment C. The sediment TOC concentrations are based on one sample per series.

Analyte	C1	C2	C3
Porewater			
THg (ng/L)	54.2±35	73.2±37	65.6±55
MeHg (ng/L)	ND[a]	ND[a]	ND[a]
Sediment			
THg (ng g^{-1})	8610±1329	2865±502	1065±63.6
MeHg (ng g^{-1})	5.3±4.8	1.8±1.8	1.5±1.6
AVS (µmol g^{-1})	3.9±0.3	3.4±1.1	1.1±0
TOC (%)	14.4	14.1	14.8

a. Porewater MeHg detection limits ranged from 0.89 to 1.1 ng/L

4.4.2 Time Series Exposure

Experiment C time series for THg and MeHg are shown in **Figure 9.** An initial rapid uptake of THg by DGT and tissue occurred followed by an apparent plateau following day 10. These observations for DGT are consistent with the expected rapid uptake of metals initially present in porewater by the DGT (Zhang and Davison 1995). In contrast, uptake of MeHg by DGTs was not as rapid and MeHg concentrations appeared to increase in DGTs over the first 5-6 weeks of exposure. Tissue MeHg concentrations remained near or below the detection limit for all three series (< 2.5 ng g^{-1}). Greater MeHg uptake by DGT compared to *L. variegatus* may be due to the potentially enhanced ability of DGT, in contrast to *L. variegatus*, to compete for MeHg with ligands present in the sediment solid-phase when initial porewater MeHg concentrations were low (non-detect). Previous *L. variegatus* MeHg bioaccumulation experiments were conducted with lake sediment (Nuutinen and Kukkonen 1998), in which sediments were spiked with MeHg concentrations about an order of magnitude higher (90-106 ng g^{-1}) than Experiment C sediments (Table 8). In these experiments reduced tissue uptake was observed in sediment with higher organic carbon content (9.9% compared to 3.4% sediment organic carbon). As our sediment had higher TOC (14.1-14.8%), lower MeHg concentrations, and the MeHg was already present in the sediment rather than spiked (spiked contaminants may be more bioavailable [Nuutinen and Kukkonen 1998]), the low uptake of MeHg by *L. variegatus* in our experiment is not unexpected. In addition, the absence of detectable levels of MeHg in *L. variegatus* tissue is consistent with low tissue MeHg:THg ratios observed in oligochaetes at other sites (e.g., Suchanek et al. 2008, Ghosh et al. 2008, MADEP 2013) compared to MeHg:THg ratios in bivalves (e.g., Kljakovic-Gaspic et al. 2006, Riisgard et al. 1985, Langston 1982).

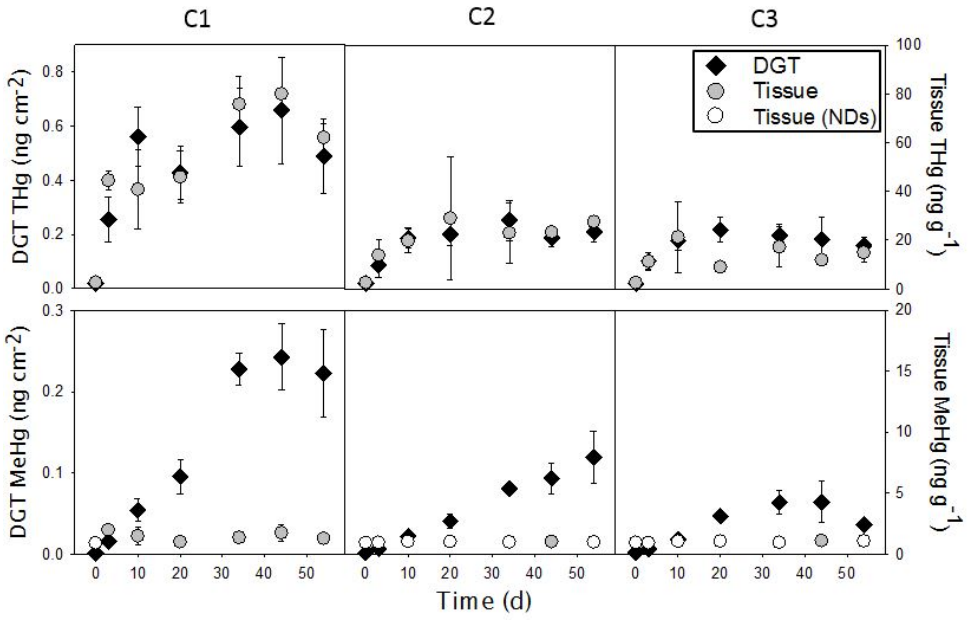


Figure 9. Experiment C day average (±standard deviation) THg and MeHg time series for DGT and tissue (*L. variegatus*)

Simple linear regression modeling indicates that tissue and DGTs took up statistically significant amounts of THg over the course of Experiments C1 and C2 (see **Table 9**). DGT, but not tissue, took up statistically significant amounts of THg in Experiment C3. Uptake of MeHg by DGTs was also statistically significant in Experiments C1, C2, and C2, while no MeHg uptake was observed in tissue.

Table 9. p-values for THg and MeHg uptake kinetics for Experiment C

p-value	**THg**		**MeHg**	
(non-zero slope)	**DGT**	**Tissue**	**DGT**	**Tissue**
C1	0.001*	<0.001*	<0.001*	0.667
C2	<0.001*	0.022*	<0.001*	0.343
C3	0.020*	0.214	<0.001*	0.067

***** denotes statistical significance at the 95% confidence level ($p < 0.05$)

Figure 10 graphically depicts the relationship between day-averaged DGT and tissue data for THg in Experiments C1 and C2. The correlations between day-averaged DGT and tissue THg concentrations in C1 and C2 suggest that DGT may be a good indicator of *L. variegatus* uptake of THg under these exposure conditions. No relationship between DGT and *L. variegatus* uptake was observed for MeHg due to the lack of observable MeHg uptake in tissue samples.

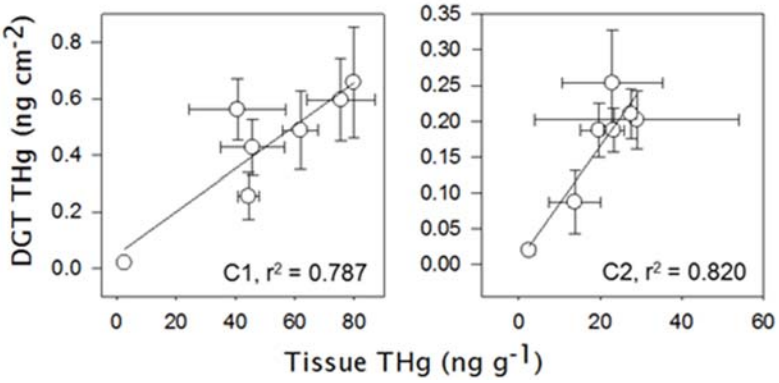


Figure 10. Experiment C day average (±standard deviation) DGT versus tissue plots (*L. variegatus*)

Table 10 summarizes r^2, the slope and its 95% confidence interval, and the trend line intercept. THg slopes for Experiments C1 and C2 were not statistically different from each other and r^2 values were similar.

Table 10. Experiment C slope ± 95% confidence intervals, trend line intercepts, and coefficients of determination for time series exhibiting significant uptake in both tissue and DGT

Series		Slope ± 95% Confidence Interval (cm^2 g^{-1})	Intercept	r^2
THg				
	C1	103.6±49	5.6	0.787
	C2	102±43	3.1	0.82

4.5 Laboratory Experiment D

In Experiment D, we deployed *M. nasuta* together with DGTs in intact cores with elevated sediment THg concentrations collected from the Penobscot River estuary (D1; approximately 1-3 ppm sediment THg) and a Mid-Atlantic mudflat (D2; approximately 100-1000 ppm sediment THg). In contrast to the time series experiments, DGTs and organisms were all removed at the same time point in Experiment D, following 14 days of exposure to the sediment.

Several issues were encountered during Experiment D:

- Tissue MeHg uptake was observed in the screening step of Experiment D1, so we proceeded with the full-scale experiment. A new batch of field-collected *M. nasuta* from the same supplier was used for the full-scale experiment. We did not observe uptake in exposed tissue due to elevated background concentrations of THg (21–45 ng g^{-1}) and MeHg (4–19 ng g^{-1}) in the new batch of *M. nasuta*. The *M. nasuta* supplier analyzed tissue from multiple locations to identify an appropriate source location with low background THg and MeHg for future deployments.
- We observed low survivorship of *M. nasuta* during the full-scale Experiment D2. Sediment was notably denser than in previous experiments, a possible effect of the extended storage time[6] of the cores prior to deployment, resulting in unfavorable conditions for *M. nasuta*. Due to the high incidence of mortality (67 %) and sediment avoidance (90 %) by the clams, a decision was made to remove the clams and deploy a new batch of *M. nasuta* in the cores. Following the 14-day deployment, DGTs were retrieved from the cores with as little disturbance as possible to the sediment. Cores remained intact and under experimental conditions until new *M. nasuta* arrived from the supplier. We consulted Alan Kennedy (USACE ERDC) for advice on deploying *M. nasuta* in compacted sediment[7] and deployed the new batch of *M. nasuta* for 14 days. In the second deployment, mortality was much reduced (7 %), though sediment avoidance behavior was still much higher (70 %) than in previous bench scale experiments.
- We did not observe a statistically significant relationship between DGT and tissue THg concentrations in Experiment D2 (p-value = 0.09 for the simple linear regression; **Figure 11**). Though not statistically significant, the observed relationship between DGT and tissue THg data even appears to have a negative slope. The lack of relationship may have

[6] Following the completion of Experiment D1 and before initiating Experiment D2, the 3-mercapto-propyl-functionalized silica used in resin gels was back ordered for several months through our initial supplier (Sigma). A second supplier was ultimately identified (Biotage), and experiments were able to proceed.

[7] Alan Kennedy's advice was as follows: 1) Make a small hole in the sediment surface and place the *M. nasuta* over the hole; 2) if the *M. nasuta* does not burrow after placement over the hole, flip it over; 3) if the *M. nasuta* still does not burrow after flipping it over, use a brush to texture and loosen the sediment surface and; 4) the *M. nasuta* should not be pushed into the sediment and needs to burrow on its own. These manipulations are not expected to significantly affect the results of the experiment.

been impacted by the varying extent of *M. nasuta* burial or toxicity effects due to high sediment THg concentrations, although we have not been able to determine the cause.

- Similarly, we did not observe a statistically significant relationship between DGT and tissue MeHg concentrations in Experiment D2 (p-value = 0.58 for the simple linear regression; **Figure 11**). Contrary to Experiment C, in which most tissue MeHg results were below detection limits while clear MeHg uptake was observed in DGT, all but one Experiment D DGT concentration were below detection limits while MeHg uptake above background was observed in all tissue samples. This implies that MeHg and THg measured by DGTs may not be suitable for predicting biological uptake, which is likely due to fundamental differences in the way the various mercury-species are taken up by DGTs vs organisms.

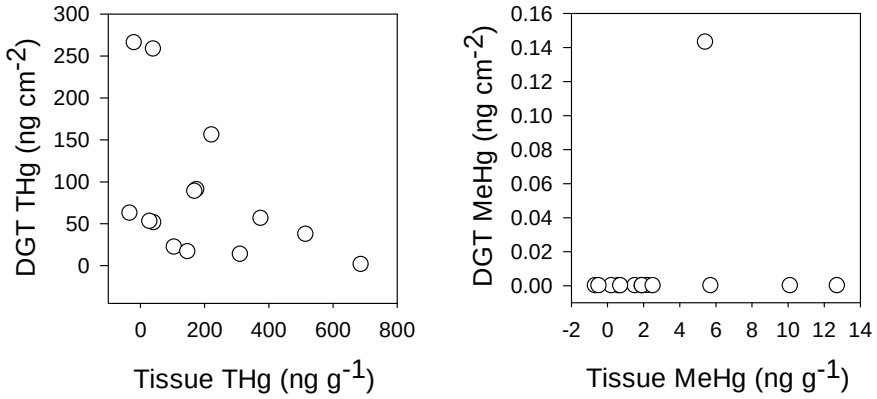


Figure 11. Experiment D2 DGT versus tissue plots by core (*M. nasuta*)

4.6 Field Bioavailability Experiment

We deployed DGTs at five stations in sediment at the PSNS (Bremerton, WA) in conjunction with SERDP project ER-201131's deployment of *M. nasuta* and *N. arenaceodentata* for MeHg analysis (**Table 11**). Sediment THg and MeHg were also analyzed as part of project ER-201131. The DGTs and biota were retrieved following 14 days of exposure. With one exception, DGT THg results were all detected above the method reporting limit (MRL). All DGT MeHg results were either not detected or detected at levels between the method detection limit (MDL) and the MRL. All sediment THg and MeHg results were detected above MRLs, and THg concentrations were one to two orders of magnitude higher than MeHg concentrations. MeHg was detected above the MRLs in *M. nasuta* at 4 of 5 stations and in *N. arenaceodentata* at 2 of 4 stations (not analyzed at Station 3).

Table 11. DGT (location average ± standard deviation), sediment, and tissue results for 14 day Puget Sound Naval Shipyard field deployment experiment (n= sample size)

	DGT (ng cm^{-2})		Sediment (ng g^{-1}; n=1)	
Location	**THg**	**MeHg**	**THg**	**MeHg**
3-MM	0.029 (n=1)	0.000087±0.0001 (n=2)	97	2.1
4-MM	0.015±0.0005 (n=2)	0.000057±0.00007 (n=2)	84	0.82
5-MM	0.01±0.003 (n=3)	0.000059±0.00005 (n=3)	48	0.98
8-MM	0.025±0.01 (n=3)	ND (n=3)	10	0.95
9-MM	0.002±0.004 (n=2)	0.000044±0.00007 (n=3)	110	0.74
	***M. nasuta* (ng g^{-1}, n=1)**		***N. arenaceodentata* (ng g^{-1}, n=1)**	
Location	**THg**	**MeHg**	**THg**	MeHg
3-MM	7.6	ND	NA	NA
4-MM	9.4	1.4	5	ND
5-MM	14	2.4	2.2	ND
8-MM	17	4.1	ND	0.78
9-MM	20	2.4	ND	0.24

Figure 12 shows the DGT THg and MeHg data in relation to the tissue results for THg and MeHg in *M. nasuta* and *N. arenaceodentata*. Interpretation of the data is hindered by the low samples sizes. Moreover, several of the analyzed tissue samples fell below the MDL, which further reduces our ability to observe clear relationships and trends. However, based on the results, it appears that, to the extent a trend can be discerned, that trend is negative. This observation is unexpected, and difficult to interpret. The most probable explanation is that the low ambient concentrations of THg and MeHg do not allow an observation of a clear "signal" over the baseline variability present in natural systems ("noise").

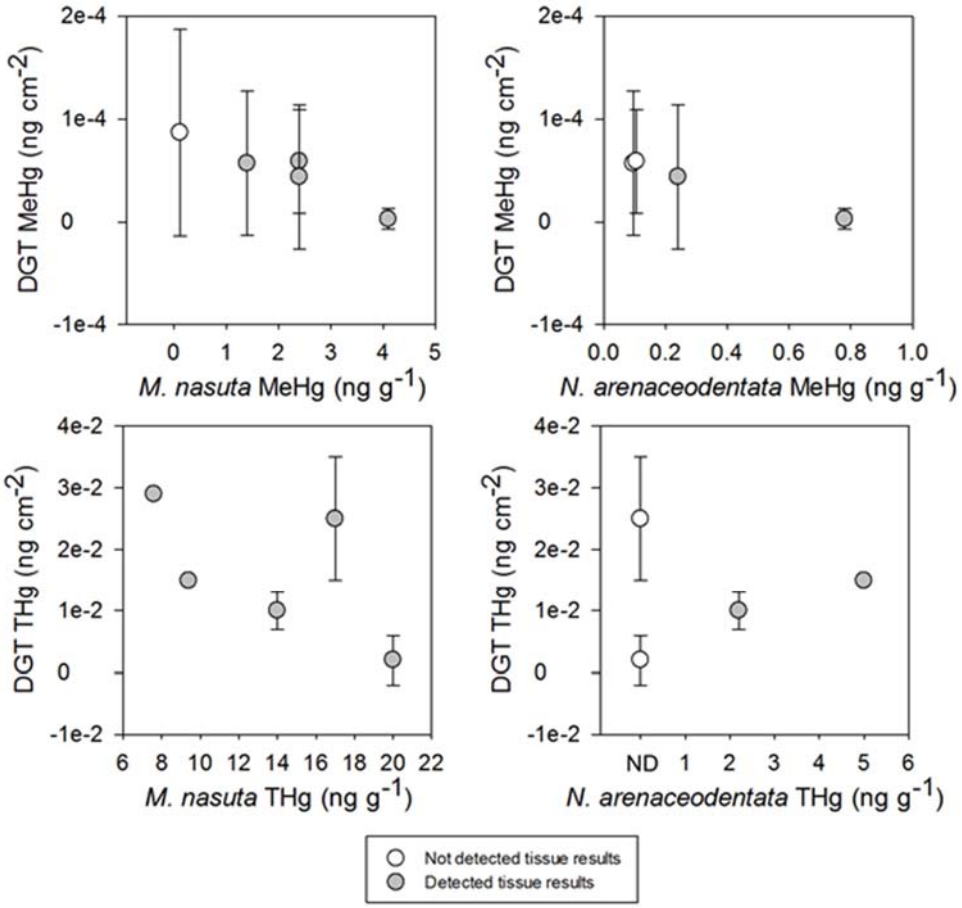


Figure 12. Puget Sound Naval Shipyard field deployment experiment location average (±standard deviation) DGT versus tissue plots[8]

[8] Tissue MeHg non-detect results are presented as ½ MDL. In the absence of MDL data for tissue THg, non-detect tissue THg results are plotted at zero.

4.7 Analysis of Overall Experimental Results

As described in **Section 1**, the primary objective of this project is to develop DGTs as a biomonitoring tool for THg and MeHg in sediment. We codeployed DGTs and organisms in several experiments to assess the relationship between tissue and DGT uptake of THg and MeHg. The time series experiments with significant uptake ($p < 0.05$) of THg or MeHg for both tissue and DGT are compiled in **Table 12**. For these time series, the slope and 95% confidence intervals of the DGT versus tissue linear regressions were calculated for comparison among series.

Table 12. Slope ± 95% confidence intervals and coefficients of determination for all of the time series exhibiting significant uptake in both tissue and DGT

Series		Species	Slope ± 95% Confidence Interval ($cm^2\ g^{-1}$)	r^2
THg				
	A1	*M. nasuta*	18.7±4	0.939
	A3	*L. plumulosus*	43.1±22	0.764
	A3[a]	*L. plumulosus*	65.7±25	0.929
	B1	*M. nasuta*	10.1±9	0.504
	B2	*M. nasuta*	43.8±12	0.92
	C1	*L. variegatus*	103.6±49	0.787
	C2	*L. variegatus*	102±43	0.82
MeHg				
	A1	*M. nasuta*	37.9±13	0.874
	A3	*L. plumulosus*	112.4±135	0.361
	A3[a]	*L. plumulosus*	129.5±79	0.831
	B1	*M. nasuta*	7.6±5	0.624
	B2	*M. nasuta*	22.7±31	0.302
	B3	*M. nasuta*	37.5±66	0.208

[a] *L. plumulosus* tissue and paddle DGT from Experiment A1 that sampled sediment depth.

The slopes varied among species for both THg and MeHg indicating that a unified slope would not be appropriate for assessing THg or MeHg uptake among species and sites. Differences in slopes may be due to differences in THg uptake and elimination mechanisms between species as well as differences in sediment characteristics (e.g. sediment organic carbon, AVS, freshwater versus estuarine) affecting the relative bioavailability and lability of THg to organisms and DGT. The slope for the relationship of *L. variegatus* and DGT THg concentrations was not statistically different between Experiments C1 and C2 indicating that the data could be combined to produce one slope for this particular sediment source and organism. However, a meaningful relationship between *L. variegatus* and DGTs for MeHg could not be formed since significant uptake by *L. variegatus* was not observed in Experiment C. For *M. nasuta*, slope and r^2 varied among the

different time series experiments, even with sediment collected from the same site (e.g., although the THg slopes for A1 and B1 are not statistically different, the THg slope for B2 is statistically different from A1 and B1). In some cases, DGT and tissue showed opposing uptake patterns. For example, as previously mentioned, Experiments C1, C2, and C3 in which DGT exhibited significant MeHg uptake whereas *L. variegatus* MeHg concentrations remained near the detection limit throughout the time series. In contrast, all but one DGT MeHg samples were below the detection limit in Experiment D2 (intact core deployments) while all *M. nasuta* samples exhibited uptake above background, with concentrations ranging an order of magnitude. Because of these inconsistencies in DGT and tissue uptake, we cannot assume that one is more sensitive than the other when assessing THg and MeHg bioavailability in sediment. Overall, we have not found a consistent model by which to interpret DGT data, limiting our ability to interpret biomonitoring results of our experiments.

5 Conclusions and Implications for Future Research/Implementation

The objective of our research was to evaluate the performance of DGTs as biomonitoring tools for THg and MeHg in benthic organisms. We completed a bench-scale evaluation of DGTs under a variety of sediment conditions with varying salinity, organic carbon content, and mercury concentrations, using a variety of different organisms. In addition, we performed an evaluation of DGT performance under field conditions at a marine site in Washington.

We made the following observations:

1. In some cases, but not all, DGTs performed well as a biomonitoring tool; that is to say, DGT data correlated reasonably well with data obtained from co-deployed organisms.
2. In most cases, but not all, DGTs appeared to take up THg and MeHg, even when no statistically significant levels of uptake were observed in tissue samples.
3. The relationship between DGT data and tissue data appears to vary in slope and significance, and varies significantly from experiment to experiment, even among experiments conducted using the same organisms and using sediment from the same site.
4. When working at environmentally-relevant, low THg concentrations, analytical variability for both tissue and DGT samples was relatively high, often confounding correlations between tissue and DGT results.

Our earliest experiments, which had the most favorable outcomes, established reasonable positive correlations between DGT and tissue THg and MeHg concentrations. As experimental complexity increased, those relationships were increasingly inconsistent. In later experiments, DGT data did not consistently correlate with tissue data, DGTs did not consistently provide a more "sensitive" measure of THg and MeHg compared to benthic organisms, and the slope of the relationship between DGT and tissue data varied among experiments. Thus, we report that, in our experiments, the utility of the DGTs as biomonitoring tools was inconsistent. However, despite the challenges we experienced, our early experiments and results by others suggest that the study of DGTs continue, or that an alternative tool be developed. The need to be able to measure THg and MeHg bioavailability accurately, consistently, and reliably has profound cost implications for DoD and non-DoD sites alike.

Conder et al. (2015) demonstrated that mercury cleanup goals based on generic Sediment Quality Values (SQVs) for protection of benthic invertebrates are one to several orders of magnitude lower than mercury toxicity thresholds for invertebrates identified from spiked sediment studies and sediment toxicity investigations at mercury sites. SQVs developed using paired toxicity and chemistry results (i.e., co-occurrence SQVs) do not represent cause-effect relationships, although they often are misinterpreted as such. Predicting toxic risk is an important component of sediment management and informs management decisions for site investigations. Although intended for screening purposes, and despite their poor representation of toxicity, SQVs have been used for decision making steps including dredged material assessments, cleanup and monitoring of sediments, and development of total maximum daily load (TMDL) or other source reduction goals. With such broad applications and potential importance for sediment management, the development of a monitoring tool that can accurately measure THg and MeHg bioavailability is of great interest to DoD and other potentially responsible parties exposed to liabilities associated with mercury in sediment.

Previous DGT research focused primarily on surface water applications and/or on major ions or heavy metals such as Zn, Cu, and Cd (Zhang and Davison 1995, Gimpel et al. 2003), and have been quite successful under those conditions. Our work with DGTs differed in three main areas: (1) we deployed the DGTs in a sediment matrix exposed to environmentally-relevant mercury levels, (2) we deployed DGTs for extended periods, and (3) we compared DGT uptake directly to uptake by organisms. These factors all added complexity, variability, and uncertainty to our results compared to mainstream DGT literature. Our results indicate that mercury uptake by benthic macroinvertebrates is more complex than what can be measured by a simple passive sampler such as a DGT, as currently configured (or as configured in our laboratories). Future research should focus on developing a deeper understanding of the relationship between DGT and tissue data, including a closer look at the effects of mercury speciation and complexation. In addition, DGT work by others should continue, such as using DGTs to measure porewater mercury concentrations, as opposed to direct comparison to benthic organisms; porewater mercury concentrations may be used as an input to a model for predicting mercury bioavailability at contaminated sites.

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Appendix A. Supporting Data

Table A1. Analytical Results (Excel file)

Table A2. Descriptions and Definitions for Table A1 (Excel file)

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment A	A1	MAC00	MAC00-1A-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.025	U	No	Yes	0.025	0.063	ng/L	0.00013	-0.0000018	ng/cm^2	
Experiment A	A1	MAC00	MAC00-1B-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.064	ng/L	0.00014	0.0000035	ng/cm^2	
Experiment A	A1	MAC00	MAC00-1C-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.025	U	No	Yes	0.025	0.063	ng/L	0.00013	-0.0000018	ng/cm^2	
Experiment A	A1	MAC00	MAC00-1A-DGT	0	NA	2/17/2012	N	DGT	NA	THg	1.06	B	Yes	Yes	0.42	1.11	ng/L	0.0039	-0.0051	ng/cm^2	
Experiment A	A1	MAC00	MAC00-1B-DGT	0	NA	2/17/2012	N	DGT	NA	THg	3.08		Yes	Yes	0.42	1.12	ng/L	0.011	0.0024	ng/cm^2	
Experiment A	A1	MAC00	MAC00-1C-DGT	0	NA	2/17/2012	N	DGT	NA	THg	3.16		Yes	Yes	0.42	1.11	ng/L	0.012	0.0027	ng/cm^2	
Experiment A	A1	MAC00	MAC00-1-POR	0	NA	2/17/2012	N	POR	NA	MeHg	1.73	B	Yes	Yes	1.00	2.50	ng/L	1.9	0.78	ng/L	
Experiment A	A1	MAC00	MAC00-1-POR	0	NA	2/17/2012	N	POR	NA	THg	29.9	B	Yes	Yes	13.1	34.8	ng/L	32	16	ng/L	
Experiment A	A1	MAC00	MAC00-1A-SED	0	NA	2/17/2012	N	SED	NA	%LOI	11.7		Yes	Yes			%	12	12	%	
Experiment A	A1	MAC00	MAC00-1B-SED	0	NA	2/17/2012	N	SED	NA	%LOI	13.9		Yes	Yes			%	14	14	%	
Experiment A	A1	MAC00	MAC00-1-SED	0	NA	2/17/2012	N	SED	NA	MeHg	7.74		Yes	Yes	0.019	0.060	ng/g	24	24	ng/g	
Experiment A	A1	MAC00	MAC00-1-SED	0	NA	2/17/2012	N	SED	NA	THg	262		Yes	Yes	20.2	60.5	ng/g	800	800	ng/g	
Experiment A	A1	MAC00	MAC00-1-TIS	0	NA	2/17/2012	N	TIS	*M. nasuta*	MeHg	2.5	B	Yes	Yes	0.9	2.8	ng/g	2.5	0.35	ng/g	
Experiment A	A1	MAC00	MAC00-2-TIS	0	NA	2/17/2012	N	TIS	*M. nasuta*	MeHg	1.8	B	Yes	Yes	1.1	3.2	ng/g	1.8	-0.35	ng/g	
Experiment A	A1	MAC00	MAC00-1-TIS	0	NA	2/17/2012	N	TIS	*M. nasuta*	THg	8.57		Yes	Yes	0.59	1.98	ng/g	8.6	-1.5	ng/g	
Experiment A	A1	MAC00	MAC00-2-TIS	0	NA	2/17/2012	N	TIS	*M. nasuta*	THg	11.6		Yes	Yes	0.12	0.42	ng/g	12	1.5	ng/g	
Experiment A	A1	MAC03	MAC03-1A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	10.6		Yes	Yes	0.102	0.254	ng/L	0.056	0.056	ng/cm^2	
Experiment A	A1	MAC03	MAC03-1B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	9.89		Yes	Yes	0.100	0.249	ng/L	0.052	0.052	ng/cm^2	
Experiment A	A1	MAC03	MAC03-2A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	11.2		Yes	Yes	0.124	0.310	ng/L	0.059	0.059	ng/cm^2	
Experiment A	A1	MAC03	MAC03-2B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	10.5		Yes	Yes	0.096	0.241	ng/L	0.056	0.056	ng/cm^2	
Experiment A	A1	MAC03	MAC03-1A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	62.2		Yes	Yes	1.67	4.44	ng/L	0.23	0.22	ng/cm^2	
Experiment A	A1	MAC03	MAC03-1B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	31.4		Yes	Yes	1.67	4.44	ng/L	0.12	0.11	ng/cm^2	
Experiment A	A1	MAC03	MAC03-2A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	36.6		Yes	Yes	1.67	4.44	ng/L	0.14	0.13	ng/cm^2	
Experiment A	A1	MAC03	MAC03-2B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	86.1		Yes	Yes	1.67	4.44	ng/L	0.32	0.31	ng/cm^2	
Experiment A	A1	MAC03	MAC03-1-TIS	3	2/17/2012	2/20/2012	N	TIS	*M. nasuta*	MeHg	4.0		Yes	Yes	0.9	2.7	ng/g	4	1.9	ng/g	
Experiment A	A1	MAC03	MAC03-2-TIS	3	2/17/2012	2/20/2012	N	TIS	*M. nasuta*	MeHg	4.1		Yes	Yes	0.9	2.6	ng/g	4.1	2	ng/g	
Experiment A	A1	MAC03	MAC03-1-TIS	3	2/17/2012	2/20/2012	N	TIS	*M. nasuta*	THg	9.72		Yes	Yes	1.47	3.68	ng/g	9.7	-0.37	ng/g	
Experiment A	A1	MAC03	MAC03-2-TIS	3	2/17/2012	2/20/2012	N	TIS	*M. nasuta*	THg	16.0		Yes	Yes	1.60	4.00	ng/g	16	5.9	ng/g	
Experiment A	A1	MAC07	MAC07-1A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	30.8		Yes	Yes	0.108	0.270	ng/L	0.16	0.16	ng/cm^2	
Experiment A	A1	MAC07	MAC07-1B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	22.2		Yes	Yes	0.100	0.249	ng/L	0.12	0.12	ng/cm^2	
Experiment A	A1	MAC07	MAC07-2A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	21.6		Yes	Yes	0.100	0.251	ng/L	0.11	0.11	ng/cm^2	
Experiment A	A1	MAC07	MAC07-2B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	17.6		Yes	Yes	0.112	0.281	ng/L	0.093	0.093	ng/cm^2	
Experiment A	A1	MAC07	MAC07-1A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	185		Yes	Yes	1.67	4.44	ng/L	0.69	0.68	ng/cm^2	
Experiment A	A1	MAC07	MAC07-1B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	117		Yes	Yes	1.67	4.44	ng/L	0.43	0.42	ng/cm^2	
Experiment A	A1	MAC07	MAC07-2A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	80.4		Yes	Yes	1.67	4.44	ng/L	0.3	0.29	ng/cm^2	
Experiment A	A1	MAC07	MAC07-2B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	77.9		Yes	Yes	1.67	4.44	ng/L	0.29	0.28	ng/cm^2	
Experiment A	A1	MAC07	MAC07-1-TIS	7	2/17/2012	2/24/2012	N	TIS	*M. nasuta*	MeHg	3.7		Yes	Yes	0.9	2.8	ng/g	3.7	1.6	ng/g	
Experiment A	A1	MAC07	MAC07-2-TIS	7	2/17/2012	2/24/2012	N	TIS	*M. nasuta*	MeHg	4.2		Yes	Yes	1.0	3.0	ng/g	4.2	2.1	ng/g	
Experiment A	A1	MAC07	MAC07-1-TIS	7	2/17/2012	2/24/2012	N	TIS	*M. nasuta*	THg	17.9		Yes	Yes	1.58	3.96	ng/g	18	7.8	ng/g	
Experiment A	A1	MAC07	MAC07-2-TIS	7	2/17/2012	2/24/2012	N	TIS	*M. nasuta*	THg	13.5		Yes	Yes	1.59	3.98	ng/g	14	3.4	ng/g	
Experiment A	A1	MAC14	MAC14-1A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	34.8		Yes	Yes	0.132	0.331	ng/L	0.18	0.18	ng/cm^2	
Experiment A	A1	MAC14	MAC14-1B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	44.3		Yes	Yes	0.105	0.262	ng/L	0.23	0.23	ng/cm^2	
Experiment A	A1	MAC14	MAC14-2A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	33.2		Yes	Yes	0.106	0.265	ng/L	0.18	0.18	ng/cm^2	
Experiment A	A1	MAC14	MAC14-2B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	26.6		Yes	Yes	0.106	0.265	ng/L	0.14	0.14	ng/cm^2	
Experiment A	A1	MAC14	MAC14-1A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	122		Yes	Yes	1.67	4.44	ng/L	0.45	0.44	ng/cm^2	
Experiment A	A1	MAC14	MAC14-1B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	226		Yes	Yes	1.67	4.44	ng/L	0.84	0.83	ng/cm^2	
Experiment A	A1	MAC14	MAC14-2A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	211		Yes	Yes	1.67	4.44	ng/L	0.78	0.77	ng/cm^2	
Experiment A	A1	MAC14	MAC14-2B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	151		Yes	Yes	1.67	4.44	ng/L	0.56	0.55	ng/cm^2	
Experiment A	A1	MAC14	MAC14-1-TIS	14	2/17/2012	3/2/2012	N	TIS	*M. nasuta*	MeHg	10.4		Yes	Yes	0.9	2.8	ng/g	10	8.3	ng/g	
Experiment A	A1	MAC14	MAC14-2-TIS	14	2/17/2012	3/2/2012	N	TIS	*M. nasuta*	MeHg	5.4		Yes	Yes	1.0	2.9	ng/g	5.4	3.3	ng/g	
Experiment A	A1	MAC14	MAC14-1-TIS	14	2/17/2012	3/2/2012	N	TIS	*M. nasuta*	THg	25.3		Yes	Yes	1.56	3.91	ng/g	25	15	ng/g	
Experiment A	A1	MAC14	MAC14-2-TIS	14	2/17/2012	3/2/2012	N	TIS	*M. nasuta*	THg	16.3		Yes	Yes	1.51	3.77	ng/g	16	6.2	ng/g	
Experiment A	A1	MAC28	MAC28-1A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	58.2	J	Yes	Yes	0.025	0.063	ng/L	0.31	0.31	ng/cm^2	
Experiment A	A1	MAC28	MAC28-1B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	53.9	J	Yes	Yes	0.025	0.063	ng/L	0.29	0.29	ng/cm^2	
Experiment A	A1	MAC28	MAC28-2A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	31.9	J	Yes	Yes	0.026	0.064	ng/L	0.17	0.17	ng/cm^2	
Experiment A	A1	MAC28	MAC28-2B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	46.0	J	Yes	Yes	0.025	0.062	ng/L	0.24	0.24	ng/cm^2	
Experiment A	A1	MAC28	MAC28-1A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	220		Yes	Yes	1.67	4.44	ng/L	0.81	0.81	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment A	A1	MAC28	MAC28-1B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	183		Yes	Yes	1.67	4.44	ng/L	0.68	0.67	ng/cm^2	
Experiment A	A1	MAC28	MAC28-2A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	124		Yes	Yes	1.67	4.44	ng/L	0.46	0.45	ng/cm^2	
Experiment A	A1	MAC28	MAC28-2B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	183		Yes	Yes	1.67	4.44	ng/L	0.68	0.67	ng/cm^2	
Experiment A	A1	MAC28	MAC28-1-TIS	28	2/17/2012	3/16/2012	N	TIS	*M. nasuta*	MeHg	11.4		Yes	Yes	1.0	3.0	ng/g	11	9.3	ng/g	
Experiment A	A1	MAC28	MAC28-2-TIS	28	2/17/2012	3/16/2012	N	TIS	*M. nasuta*	MeHg	11.6		Yes	Yes	1.0	3.0	ng/g	12	9.5	ng/g	
Experiment A	A1	MAC28	MAC28-1-TIS	28	2/17/2012	3/16/2012	N	TIS	*M. nasuta*	THg	22.7		Yes	Yes	1.57	3.93	ng/g	23	13	ng/g	
Experiment A	A1	MAC28	MAC28-2-TIS	28	2/17/2012	3/16/2012	N	TIS	*M. nasuta*	THg	18.9	M	Yes	Yes	1.64	4.10	ng/g	19	8.8	ng/g	
Experiment A	A1	MAC41	MAC41-1A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	22.7		Yes	Yes	0.026	0.064	ng/L	0.12	0.12	ng/cm^2	
Experiment A	A1	MAC41	MAC41-1B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	32.9		Yes	Yes	0.025	0.062	ng/L	0.17	0.17	ng/cm^2	
Experiment A	A1	MAC41	MAC41-2A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	36.8		Yes	Yes	0.026	0.064	ng/L	0.19	0.19	ng/cm^2	
Experiment A	A1	MAC41	MAC41-2B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	38.1		Yes	Yes	0.025	0.063	ng/L	0.2	0.2	ng/cm^2	
Experiment A	A1	MAC41	MAC41-1A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	43.6		Yes	Yes	1.67	4.44	ng/L	0.16	0.15	ng/cm^2	
Experiment A	A1	MAC41	MAC41-1B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	182		Yes	Yes	1.67	4.44	ng/L	0.67	0.67	ng/cm^2	
Experiment A	A1	MAC41	MAC41-2A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	202		Yes	Yes	1.67	4.44	ng/L	0.75	0.74	ng/cm^2	
Experiment A	A1	MAC41	MAC41-2B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	138		Yes	Yes	1.67	4.44	ng/L	0.51	0.5	ng/cm^2	
Experiment A	A1	MAC41	MAC41-1-TIS	41	2/17/2012	3/29/2012	N	TIS	*M. nasuta*	MeHg	13.1		Yes	Yes	1.0	2.9	ng/g	13	11	ng/g	
Experiment A	A1	MAC41	MAC41-2-TIS	41	2/17/2012	3/29/2012	N	TIS	*M. nasuta*	MeHg	6.3		Yes	Yes	1.0	3.0	ng/g	6.3	4.2	ng/g	
Experiment A	A1	MAC41	MAC41-1-TIS	41	2/17/2012	3/29/2012	N	TIS	*M. nasuta*	THg	24.1		Yes	Yes	0.78	1.94	ng/g	24	14	ng/g	
Experiment A	A1	MAC41	MAC41-2-TIS	41	2/17/2012	3/29/2012	N	TIS	*M. nasuta*	THg	15.6		Yes	Yes	0.79	1.99	ng/g	16	5.5	ng/g	
Experiment A	A1	MAC55	MAC55-1A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	27.5		Yes	Yes	0.025	0.061	ng/L	0.15	0.15	ng/cm^2	
Experiment A	A1	MAC55	MAC55-1B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	28.8		Yes	Yes	0.025	0.063	ng/L	0.15	0.15	ng/cm^2	
Experiment A	A1	MAC55	MAC55-2A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	31.0		Yes	Yes	0.024	0.061	ng/L	0.16	0.16	ng/cm^2	
Experiment A	A1	MAC55	MAC55-2B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	22.1		Yes	Yes	0.024	0.061	ng/L	0.12	0.12	ng/cm^2	
Experiment A	A1	MAC55	MAC55-1A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	170		Yes	Yes	1.67	4.44	ng/L	0.63	0.62	ng/cm^2	
Experiment A	A1	MAC55	MAC55-1B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	192		Yes	Yes	1.67	4.44	ng/L	0.71	0.7	ng/cm^2	
Experiment A	A1	MAC55	MAC55-2A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	205		Yes	Yes	1.67	4.44	ng/L	0.76	0.75	ng/cm^2	
Experiment A	A1	MAC55	MAC55-2B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	161		Yes	Yes	1.67	4.44	ng/L	0.6	0.59	ng/cm^2	
Experiment A	A1	MAC55	MAC55-1-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	2.24	B	Yes	Yes	1.00	2.50	ng/L	2.3	1.3	ng/L	
Experiment A	A1	MAC55	MAC55-2-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	4.23		Yes	Yes	0.987	2.47	ng/L	4.4	3.4	ng/L	
Experiment A	A1	MAC55	MAC55-5-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	1.58	B	Yes	Yes	0.964	2.41	ng/L	1.6	0.63	ng/L	
Experiment A	A1	MAC55	MAC55-6-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	1.89	B	Yes	Yes	0.991	2.48	ng/L	2	0.95	ng/L	
Experiment A	A1	MAC55	MAC55-1-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	24.5	B	Yes	Yes	15.2	40.4	ng/L	25	6.2	ng/L	
Experiment A	A1	MAC55	MAC55-2-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	18.3	B	Yes	Yes	15.4	41.2	ng/L	19	-0.21	ng/L	
Experiment A	A1	MAC55	MAC55-5-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	23.7	B	Yes	Yes	17.0	45.4	ng/L	25	5.4	ng/L	
Experiment A	A1	MAC55	MAC55-6-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	15.6	B	Yes	Yes	14.5	38.6	ng/L	16	-3	ng/L	
Experiment A	A1	MAC55	MAC55-1-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	37.48		Yes	Yes	0.05	0.17	%	37	37	%	
Experiment A	A1	MAC55	MAC55-2-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	31.67		Yes	Yes	0.05	0.17	%	32	32	%	
Experiment A	A1	MAC55	MAC55-5-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	27.48		Yes	Yes	0.05	0.17	%	27	27	%	
Experiment A	A1	MAC55	MAC55-6-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	35.05		Yes	Yes	0.05	0.17	%	35	35	%	
Experiment A	A1	MAC55	MAC55-3-SED	55	2/17/2012	4/12/2012	N	SED	NA	AVS	35.51		Yes	Yes			µmol/g	36	36	µmol/g	
Experiment A	A1	MAC55	MAC55-4-SED	55	2/17/2012	4/12/2012	N	SED	NA	AVS	28.20		Yes	Yes			µmol/g	28	28	µmol/g	
Experiment A	A1	MAC55	MAC55-1-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	16.9		Yes	Yes	0.053	0.165	ng/g	17	17	ng/g	
Experiment A	A1	MAC55	MAC55-2-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	20.9		Yes	Yes	0.059	0.183	ng/g	21	21	ng/g	
Experiment A	A1	MAC55	MAC55-5-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	25.4		Yes	Yes	0.072	0.225	ng/g	25	25	ng/g	
Experiment A	A1	MAC55	MAC55-6-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	18.6		Yes	Yes	0.055	0.172	ng/g	19	19	ng/g	
Experiment A	A1	MAC55	MAC55-1-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	810		Yes	Yes	26.6	88.5	ng/g	810	810	ng/g	
Experiment A	A1	MAC55	MAC55-2-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	856		Yes	Yes	34.5	115	ng/g	860	860	ng/g	
Experiment A	A1	MAC55	MAC55-5-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	992		Yes	Yes	38.7	129	ng/g	990	990	ng/g	
Experiment A	A1	MAC55	MAC55-6-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	782		Yes	Yes	32.6	109	ng/g	780	780	ng/g	
Experiment A	A1	MAC55	MAC55-1-TIS	55	2/17/2012	4/12/2012	N	TIS	*M. nasuta*	MeHg	7.3		Yes	Yes	1.0	2.9	ng/g	7.3	5.2	ng/g	
Experiment A	A1	MAC55	MAC55-2-TIS	55	2/17/2012	4/12/2012	N	TIS	*M. nasuta*	MeHg	7.6		Yes	Yes	1.0	3.1	ng/g	7.6	5.5	ng/g	
Experiment A	A1	MAC55	MAC55-1-TIS	55	2/17/2012	4/12/2012	N	TIS	*M. nasuta*	THg	26.9		Yes	Yes	1.01	3.38	ng/g	27	17	ng/g	
Experiment A	A1	MAC55	MAC55-2-TIS	55	2/17/2012	4/12/2012	N	TIS	*M. nasuta*	THg	21.1		Yes	Yes	0.90	2.99	ng/g	21	11	ng/g	
Experiment A	A2	NER00	NER00-1A-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.025	U	No	Yes	0.025	0.063	ng/L	0.00013	-0.0000018	ng/cm^2	
Experiment A	A2	NER00	NER00-1B-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.064	ng/L	0.00014	0.0000035	ng/cm^2	
Experiment A	A2	NER00	NER00-1C-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.025	U	No	Yes	0.025	0.063	ng/L	0.00013	-0.0000018	ng/cm^2	
Experiment A	A2	NER00	NER00-1A-DGT	0	NA	2/17/2012	N	DGT	NA	THg	1.06	B	Yes	Yes	0.42	1.11	ng/L	0.0039	-0.0051	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment A	A2	NER00	NER00-1B-DGT	0	NA	2/17/2012	N	DGT	NA	THg	3.08		Yes	Yes	0.42	1.12	ng/L	0.011	0.0024	ng/cm^2	
Experiment A	A2	NER00	NER00-1C-DGT	0	NA	2/17/2012	N	DGT	NA	THg	3.16		Yes	Yes	0.42	1.11	ng/L	0.012	0.0027	ng/cm^2	
Experiment A	A2	NER00	NER00-1-POR	0	NA	2/17/2012	N	POR	NA	MeHg	1.69	B	Yes	Yes	0.996	2.49	ng/L	1.8	0.74	ng/L	
Experiment A	A2	NER00	NER00-1-POR	0	NA	2/17/2012	N	POR	NA	THg	29.9	B	Yes	Yes	15.1	40.3	ng/L	32	16	ng/L	
Experiment A	A2	NER00	NER00-1A-SED	0	NA	2/17/2012	N	SED	NA	%LOI	11.7		Yes	Yes			%	12	12	%	
Experiment A	A2	NER00	NER00-1B-SED	0	NA	2/17/2012	N	SED	NA	%LOI	13.9		Yes	Yes			%	14	14	%	
Experiment A	A2	NER00	NER00-1-SED	0	NA	2/17/2012	N	SED	NA	MeHg	6.77		Yes	Yes	0.020	0.062	ng/g	20	20	ng/g	
Experiment A	A2	NER00	NER00-1-SED	0	NA	2/17/2012	N	SED	NA	THg	254		Yes	Yes	19.6	58.9	ng/g	770	770	ng/g	
Experiment A	A2	NER00	NER00-1-TIS	0	NA	2/17/2012	N	TIS	*N. virens*	MeHg	3.3		Yes	Yes	1.0	3.1	ng/g	3.3	0.45	ng/g	
Experiment A	A2	NER00	NER00-2-TIS	0	NA	2/17/2012	N	TIS	*N. virens*	MeHg	2.4	B	Yes	Yes	1.1	3.2	ng/g	2.4	-0.45	ng/g	
Experiment A	A2	NER00	NER00-1-TIS	0	NA	2/17/2012	N	TIS	*N. virens*	THg	32.7		Yes	Yes	0.23	0.76	ng/g	33	-3.2	ng/g	
Experiment A	A2	NER00	NER00-2-TIS	0	NA	2/17/2012	N	TIS	*N. virens*	THg	39.0		Yes	Yes	0.24	0.80	ng/g	39	3.2	ng/g	
Experiment A	A2	NER03	NER03-1A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	10.8		Yes	Yes	0.025	0.062	ng/L	0.057	0.057	ng/cm^2	
Experiment A	A2	NER03	NER03-1B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	11.3		Yes	Yes	0.025	0.061	ng/L	0.06	0.06	ng/cm^2	
Experiment A	A2	NER03	NER03-2A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	11.3		Yes	Yes	0.026	0.064	ng/L	0.06	0.06	ng/cm^2	
Experiment A	A2	NER03	NER03-2B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	14.5		Yes	Yes	0.026	0.065	ng/L	0.077	0.077	ng/cm^2	
Experiment A	A2	NER03	NER03-1A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	108		Yes	Yes	0.34	0.89	ng/L	0.4	0.39	ng/cm^2	
Experiment A	A2	NER03	NER03-1B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	86.5		Yes	Yes	0.39	1.05	ng/L	0.32	0.31	ng/cm^2	
Experiment A	A2	NER03	NER03-2A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	129		Yes	Yes	16.7	44.4	ng/L	0.48	0.47	ng/cm^2	
Experiment A	A2	NER03	NER03-2B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	20.9		Yes	Yes	0.34	0.91	ng/L	0.077	0.068	ng/cm^2	
Experiment A	A2	NER03	NER03-1-TIS	3	2/17/2012	2/20/2012	N	TIS	*N. virens*	MeHg	3.1		Yes	Yes	0.9	2.6	ng/g	3.1	0.25	ng/g	
Experiment A	A2	NER03	NER03-2-TIS	3	2/17/2012	2/20/2012	N	TIS	*N. virens*	MeHg	5.0		Yes	Yes	0.9	2.7	ng/g	5	2.2	ng/g	
Experiment A	A2	NER03	NER03-1-TIS	3	2/17/2012	2/20/2012	N	TIS	*N. virens*	THg	17.0		Yes	Yes	1.50	3.74	ng/g	17	-19	ng/g	
Experiment A	A2	NER03	NER03-2-TIS	3	2/17/2012	2/20/2012	N	TIS	*N. virens*	THg	17.0		Yes	Yes	1.60	3.99	ng/g	17	-19	ng/g	
Experiment A	A2	NER07	NER07-1A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	26.2		Yes	Yes	0.024	0.059	ng/L	0.14	0.14	ng/cm^2	
Experiment A	A2	NER07	NER07-1B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	31.2		Yes	Yes	0.024	0.061	ng/L	0.17	0.17	ng/cm^2	
Experiment A	A2	NER07	NER07-2A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	35.2		Yes	Yes	0.026	0.064	ng/L	0.19	0.19	ng/cm^2	
Experiment A	A2	NER07	NER07-2B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	25.5		Yes	Yes	0.025	0.063	ng/L	0.14	0.13	ng/cm^2	
Experiment A	A2	NER07	NER07-1A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	219		Yes	Yes	16.7	44.4	ng/L	0.81	0.8	ng/cm^2	
Experiment A	A2	NER07	NER07-1B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	203		Yes	Yes	16.7	44.4	ng/L	0.75	0.74	ng/cm^2	
Experiment A	A2	NER07	NER07-2A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	227		Yes	Yes	3.33	8.89	ng/L	0.84	0.83	ng/cm^2	
Experiment A	A2	NER07	NER07-2B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	217		Yes	Yes	1.67	4.44	ng/L	0.8	0.79	ng/cm^2	
Experiment A	A2	NER07	NER07-1-TIS	7	2/17/2012	2/24/2012	N	TIS	*N. virens*	MeHg	4.6		Yes	Yes	1.0	2.9	ng/g	4.6	1.8	ng/g	
Experiment A	A2	NER07	NER07-2-TIS	7	2/17/2012	2/24/2012	N	TIS	*N. virens*	MeHg	4.6		Yes	Yes	1.0	3.0	ng/g	4.6	1.8	ng/g	
Experiment A	A2	NER07	NER07-1-TIS	7	2/17/2012	2/24/2012	N	TIS	*N. virens*	THg	26.9		Yes	Yes	1.55	3.88	ng/g	27	-9	ng/g	
Experiment A	A2	NER07	NER07-2-TIS	7	2/17/2012	2/24/2012	N	TIS	*N. virens*	THg	38.4		Yes	Yes	1.65	4.14	ng/g	38	2.6	ng/g	
Experiment A	A2	NER14	NER14-1A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	44.2		Yes	Yes	0.125	0.312	ng/L	0.23	0.23	ng/cm^2	
Experiment A	A2	NER14	NER14-1B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	22.6		Yes	Yes	0.110	0.276	ng/L	0.12	0.12	ng/cm^2	
Experiment A	A2	NER14	NER14-2A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	27.9		Yes	Yes	0.142	0.355	ng/L	0.15	0.15	ng/cm^2	
Experiment A	A2	NER14	NER14-2B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	21.0		Yes	Yes	0.565	1.41	ng/L	0.11	0.11	ng/cm^2	
Experiment A	A2	NER14	NER14-1A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	120		Yes	Yes	1.67	4.44	ng/L	0.44	0.44	ng/cm^2	
Experiment A	A2	NER14	NER14-1B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	122		Yes	Yes	1.67	4.44	ng/L	0.45	0.44	ng/cm^2	
Experiment A	A2	NER14	NER14-2A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	182		Yes	Yes	1.67	4.44	ng/L	0.67	0.67	ng/cm^2	
Experiment A	A2	NER14	NER14-2B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	157		Yes	Yes	1.67	4.44	ng/L	0.58	0.57	ng/cm^2	
Experiment A	A2	NER14	NER14-1-TIS	14	2/17/2012	3/2/2012	N	TIS	*N. virens*	MeHg	5.2		Yes	Yes	1.0	3.0	ng/g	5.2	2.4	ng/g	
Experiment A	A2	NER14	NER14-2-TIS	14	2/17/2012	3/2/2012	N	TIS	*N. virens*	MeHg	5.8		Yes	Yes	0.9	2.7	ng/g	5.8	3	ng/g	
Experiment A	A2	NER14	NER14-1-TIS	14	2/17/2012	3/2/2012	N	TIS	*N. virens*	THg	19.1		Yes	Yes	1.47	3.67	ng/g	19	-17	ng/g	
Experiment A	A2	NER14	NER14-2-TIS	14	2/17/2012	3/2/2012	N	TIS	*N. virens*	THg	30.3		Yes	Yes	1.55	3.86	ng/g	30	-5.6	ng/g	
Experiment A	A2	NER28	NER28-1A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	34.4	J	Yes	Yes	0.025	0.064	ng/L	0.18	0.18	ng/cm^2	
Experiment A	A2	NER28	NER28-1B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	35.7	J	Yes	Yes	0.025	0.062	ng/L	0.19	0.19	ng/cm^2	
Experiment A	A2	NER28	NER28-2A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	31.3	J	Yes	Yes	0.025	0.063	ng/L	0.17	0.17	ng/cm^2	
Experiment A	A2	NER28	NER28-2B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	22.6	J	Yes	Yes	0.025	0.063	ng/L	0.12	0.12	ng/cm^2	
Experiment A	A2	NER28	NER28-1A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	259		Yes	Yes	1.67	4.44	ng/L	0.96	0.95	ng/cm^2	
Experiment A	A2	NER28	NER28-1B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	127		Yes	Yes	1.67	4.44	ng/L	0.47	0.46	ng/cm^2	
Experiment A	A2	NER28	NER28-2A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	130		Yes	Yes	1.67	4.44	ng/L	0.48	0.47	ng/cm^2	
Experiment A	A2	NER28	NER28-2B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	142		Yes	Yes	1.67	4.44	ng/L	0.53	0.52	ng/cm^2	
Experiment A	A2	NER28	NER28-1-TIS	28	2/17/2012	3/16/2012	N	TIS	*N. virens*	MeHg	5.3		Yes	Yes	1.0	2.9	ng/g	5.3	2.5	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment A	A2	NER28	NER28-2-TIS	28	2/17/2012	3/16/2012	N	TIS	*N. virens*	MeHg	4.5		Yes	Yes	0.9	2.8	ng/g	4.5	1.7	ng/g	
Experiment A	A2	NER28	NER28-1-TIS	28	2/17/2012	3/16/2012	N	TIS	*N. virens*	THg	36.1		Yes	Yes	1.67	4.18	ng/g	36	0.25	ng/g	
Experiment A	A2	NER28	NER28-2-TIS	28	2/17/2012	3/16/2012	N	TIS	*N. virens*	THg	27.5		Yes	Yes	1.43	3.58	ng/g	28	-8.4	ng/g	
Experiment A	A2	NER41	NER41-1A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	11.8		Yes	Yes	0.020	0.050	ng/L	0.063	0.062	ng/cm^2	
Experiment A	A2	NER41	NER41-1B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	16.1		Yes	Yes	0.025	0.062	ng/L	0.085	0.085	ng/cm^2	
Experiment A	A2	NER41	NER41-2A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	9.92		Yes	Yes	0.025	0.063	ng/L	0.053	0.052	ng/cm^2	
Experiment A	A2	NER41	NER41-2B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	MeHg	16.4		Yes	Yes	0.026	0.064	ng/L	0.087	0.087	ng/cm^2	
Experiment A	A2	NER41	NER41-1A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	101		Yes	Yes	1.67	4.44	ng/L	0.37	0.37	ng/cm^2	
Experiment A	A2	NER41	NER41-1B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	118		Yes	Yes	1.67	4.44	ng/L	0.44	0.43	ng/cm^2	
Experiment A	A2	NER41	NER41-2A-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	107		Yes	Yes	1.67	4.44	ng/L	0.4	0.39	ng/cm^2	
Experiment A	A2	NER41	NER41-2B-DGT	41	2/17/2012	3/29/2012	N	DGT	NA	THg	115		Yes	Yes	1.67	4.44	ng/L	0.43	0.42	ng/cm^2	
Experiment A	A2	NER41	NER41-1-TIS	41	2/17/2012	3/29/2012	N	TIS	*N. virens*	MeHg	5.9		Yes	Yes	1.0	2.9	ng/g	5.9	3.1	ng/g	
Experiment A	A2	NER41	NER41-2-TIS	41	2/17/2012	3/29/2012	N	TIS	*N. virens*	MeHg	5.2		Yes	Yes	0.9	2.8	ng/g	5.2	2.4	ng/g	
Experiment A	A2	NER41	NER41-1-TIS	41	2/17/2012	3/29/2012	N	TIS	*N. virens*	THg	28.1		Yes	Yes	0.86	2.14	ng/g	28	-7.8	ng/g	
Experiment A	A2	NER41	NER41-2-TIS	41	2/17/2012	3/29/2012	N	TIS	*N. virens*	THg	23.1		Yes	Yes	0.91	2.27	ng/g	23	-13	ng/g	
Experiment A	A2	NER55	NER55-1A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	16.3		Yes	Yes	0.024	0.061	ng/L	0.086	0.086	ng/cm^2	
Experiment A	A2	NER55	NER55-1B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	16.7		Yes	Yes	0.025	0.063	ng/L	0.088	0.088	ng/cm^2	
Experiment A	A2	NER55	NER55-2A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	21.2		Yes	Yes	0.024	0.061	ng/L	0.11	0.11	ng/cm^2	
Experiment A	A2	NER55	NER55-2B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	MeHg	12.9		Yes	Yes	0.026	0.066	ng/L	0.068	0.068	ng/cm^2	
Experiment A	A2	NER55	NER55-1A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	66.4		Yes	Yes	1.67	4.44	ng/L	0.25	0.24	ng/cm^2	
Experiment A	A2	NER55	NER55-1B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	76.5		Yes	Yes	1.67	4.44	ng/L	0.28	0.27	ng/cm^2	
Experiment A	A2	NER55	NER55-2A-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	77.6		Yes	Yes	1.67	4.44	ng/L	0.29	0.28	ng/cm^2	
Experiment A	A2	NER55	NER55-2B-DGT	55	2/17/2012	4/12/2012	N	DGT	NA	THg	98.7		Yes	Yes	1.67	4.44	ng/L	0.37	0.36	ng/cm^2	
Experiment A	A2	NER55	NER55-1-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	4.30		Yes	Yes	0.988	2.47	ng/L	4.5	3.4	ng/L	
Experiment A	A2	NER55	NER55-2-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	2.52		Yes	Yes	0.974	2.43	ng/L	2.6	1.6	ng/L	
Experiment A	A2	NER55	NER55-5-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	2.03		Yes	Yes	0.748	1.87	ng/L	2.1	1.1	ng/L	
Experiment A	A2	NER55	NER55-6-POR	55	2/17/2012	4/12/2012	N	POR	NA	MeHg	2.66		Yes	Yes	0.973	2.43	ng/L	2.8	1.7	ng/L	
Experiment A	A2	NER55	NER55-1-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	15.2	B	Yes	Yes	14.9	39.7	ng/L	16	-3.4	ng/L	
Experiment A	A2	NER55	NER55-2-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	18.3	U	No	Yes	18.3	48.8	ng/L	19	-0.21	ng/L	
Experiment A	A2	NER55	NER55-5-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	21.1	U	No	Yes	21.1	56.3	ng/L	22	2.7	ng/L	
Experiment A	A2	NER55	NER55-6-POR	55	2/17/2012	4/12/2012	N	POR	NA	THg	15.2	B	Yes	Yes	14.4	38.3	ng/L	16	-3.4	ng/L	
Experiment A	A2	NER55	NER55-1-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	36.92		Yes	Yes	0.05	0.17	%	37	37	%	
Experiment A	A2	NER55	NER55-2-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	36.06		Yes	Yes	0.05	0.17	%	36	36	%	
Experiment A	A2	NER55	NER55-5-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	31.14		Yes	Yes	0.05	0.17	%	31	31	%	
Experiment A	A2	NER55	NER55-6-SED	55	2/17/2012	4/12/2012	N	SED	NA	%TS	28.16		Yes	Yes	0.05	0.17	%	28	28	%	
Experiment A	A2	NER55	NER55-3-SED	55	2/17/2012	4/12/2012	N	SED	NA	AVS	18.50		Yes	Yes			µmol/g	18	18	µmol/g	
Experiment A	A2	NER55	NER55-4-SED	55	2/17/2012	4/12/2012	N	SED	NA	AVS	28.08		Yes	Yes			µmol/g	28	28	µmol/g	
Experiment A	A2	NER55	NER55-1-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	13.4		Yes	Yes	0.053	0.164	ng/g	13	13	ng/g	
Experiment A	A2	NER55	NER55-2-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	13.5		Yes	Yes	0.054	0.169	ng/g	14	14	ng/g	
Experiment A	A2	NER55	NER55-5-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	15.9		Yes	Yes	0.063	0.196	ng/g	16	16	ng/g	
Experiment A	A2	NER55	NER55-6-SED	55	2/17/2012	4/12/2012	N	SED	NA	MeHg	15.9		Yes	Yes	0.068	0.211	ng/g	16	16	ng/g	
Experiment A	A2	NER55	NER55-1-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	700		Yes	Yes	31.4	105	ng/g	700	700	ng/g	
Experiment A	A2	NER55	NER55-2-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	728		Yes	Yes	31.7	106	ng/g	730	730	ng/g	
Experiment A	A2	NER55	NER55-5-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	855		Yes	Yes	38.7	129	ng/g	860	860	ng/g	
Experiment A	A2	NER55	NER55-6-SED	55	2/17/2012	4/12/2012	N	SED	NA	THg	876		Yes	Yes	39.9	133	ng/g	880	880	ng/g	
Experiment A	A2	NER55	NER55-1-TIS	55	2/17/2012	4/12/2012	N	TIS	*N. virens*	MeHg	5.6		Yes	Yes	1.0	3.1	ng/g	5.6	2.8	ng/g	
Experiment A	A2	NER55	NER55-2-TIS	55	2/17/2012	4/12/2012	N	TIS	*N. virens*	MeHg	8.6		Yes	Yes	1.1	3.2	ng/g	8.6	5.8	ng/g	
Experiment A	A2	NER55	NER55-1-TIS	55	2/17/2012	4/12/2012	N	TIS	*N. virens*	THg	41.2		Yes	Yes	1.06	3.55	ng/g	41	5.4	ng/g	
Experiment A	A2	NER55	NER55-2-TIS	55	2/17/2012	4/12/2012	N	TIS	*N. virens*	THg	45.2		Yes	Yes	1.20	4.00	ng/g	45	9.4	ng/g	
Experiment A	A3	LEP00	LEP00-1A-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.025	U	No	Yes	0.025	0.062	ng/L	0.0011	-0.000015	ng/cm^2	
Experiment A	A3	LEP00	LEP00-1B-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.025	U	No	Yes	0.025	0.061	ng/L	0.0011	-0.000015	ng/cm^2	
Experiment A	A3	LEP00	LEP00-1C-DGT	0	NA	2/17/2012	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.064	ng/L	0.0012	0.00003	ng/cm^2	
Experiment A	A3	LEP00	LEP00-1A-DGT	0	NA	2/17/2012	N	DGT	NA	THg	0.82	B	Yes	Yes	0.42	1.11	ng/L	0.026	-0.0015	ng/cm^2	
Experiment A	A3	LEP00	LEP00-1B-DGT	0	NA	2/17/2012	N	DGT	NA	THg	0.69	B	Yes	Yes	0.42	1.11	ng/L	0.022	-0.0056	ng/cm^2	
Experiment A	A3	LEP00	LEP00-1C-DGT	0	NA	2/17/2012	N	DGT	NA	THg	1.09		Yes	Yes	0.34	0.92	ng/L	0.035	0.0071	ng/cm^2	
Experiment A	A3	LEP00	LEP00-1-POR	0	NA	2/17/2012	N	POR	NA	MeHg	2.85		Yes	Yes	1.01	2.53	ng/L	3.1	2	ng/L	
Experiment A	A3	LEP00	LEP00-1-POR	0	NA	2/17/2012	N	POR	NA	THg	20.1	B	Yes	Yes	14.7	39.3	ng/L	22	5.6	ng/L	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment A	A3	LEP00	LEP00-1A-SED	0	NA	2/17/2012	N	SED	NA	%LOI	11.7		Yes	Yes			%	12	12	%	
Experiment A	A3	LEP00	LEP00-1B-SED	0	NA	2/17/2012	N	SED	NA	%LOI	13.9		Yes	Yes			%	14	14	%	
Experiment A	A3	LEP00	LEP00-1-SED	0	NA	2/17/2012	N	SED	NA	MeHg	6.41		Yes	Yes	0.022	0.068	ng/g	16	16	ng/g	
Experiment A	A3	LEP00	LEP00-1-SED	0	NA	2/17/2012	N	SED	NA	THg	203		Yes	Yes	17.1	51.3	ng/g	500	500	ng/g	
Experiment A	A3	LEP00	LEP00-1-TIS	0	NA	3/16/2012	N	TIS	*L. plumulosus*	MeHg	4.2		Yes	Yes	0.9	2.8	ng/g	4.2	-0.85	ng/g	
Experiment A	A3	LEP00	LEP00-2-TIS	0	NA	3/16/2012	N	TIS	*L. plumulosus*	MeHg	5.9		Yes	Yes	1.0	3.0	ng/g	5.9	0.85	ng/g	
Experiment A	A3	LEP00	LEP00-1-TIS	0	NA	3/16/2012	N	TIS	*L. plumulosus*	THg	7.97		Yes	Yes	0.38	0.94	ng/g	8	-0.66	ng/g	
Experiment A	A3	LEP00	LEP00-2-TIS	0	NA	3/16/2012	N	TIS	*L. plumulosus*	THg	9.29		Yes	Yes	0.40	1.00	ng/g	9.3	0.66	ng/g	
Experiment A	A3	LEP03	LEP03-1A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	0.895		Yes	Yes	0.026	0.064	ng/L	0.041	0.04	ng/cm^2	
Experiment A	A3	LEP03	LEP03-1B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	0.498		Yes	Yes	0.026	0.064	ng/L	0.023	0.022	ng/cm^2	
Experiment A	A3	LEP03	LEP03-2A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	0.687		Yes	Yes	0.024	0.061	ng/L	0.031	0.03	ng/cm^2	
Experiment A	A3	LEP03	LEP03-2B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	MeHg	0.495		Yes	Yes	0.025	0.063	ng/L	0.023	0.021	ng/cm^2	
Experiment A	A3	LEP03	LEP03-1A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	12.8		Yes	Yes	0.34	0.89	ng/L	0.41	0.38	ng/cm^2	
Experiment A	A3	LEP03	LEP03-1B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	11.9		Yes	Yes	0.33	0.89	ng/L	0.38	0.35	ng/cm^2	
Experiment A	A3	LEP03	LEP03-2A-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	11.3		Yes	Yes	0.33	0.89	ng/L	0.36	0.33	ng/cm^2	
Experiment A	A3	LEP03	LEP03-2B-DGT	3	2/17/2012	2/20/2012	N	DGT	NA	THg	10.5		Yes	Yes	0.33	0.89	ng/L	0.33	0.31	ng/cm^2	
Experiment A	A3	LEP03	LEP03-1-TIS	3	2/17/2012	2/20/2012	N	TIS	*L. plumulosus*	MeHg	22.2		Yes	Yes	1.4	4.3	ng/g	22	17	ng/g	
Experiment A	A3	LEP03	LEP03-2-TIS	3	2/17/2012	2/20/2012	N	TIS	*L. plumulosus*	MeHg	19.8		Yes	Yes	1.2	3.7	ng/g	20	15	ng/g	
Experiment A	A3	LEP03	LEP03-1-TIS	3	2/17/2012	2/20/2012	N	TIS	*L. plumulosus*	THg	31.0		Yes	Yes	0.58	1.44	ng/g	31	22	ng/g	
Experiment A	A3	LEP03	LEP03-2-TIS	3	2/17/2012	2/20/2012	N	TIS	*L. plumulosus*	THg	30.4		Yes	Yes	0.50	1.24	ng/g	30	22	ng/g	
Experiment A	A3	LEP07	LEP07-1A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	2.84		Yes	Yes	0.025	0.064	ng/L	0.13	0.13	ng/cm^2	
Experiment A	A3	LEP07	LEP07-1B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	1.57		Yes	Yes	0.025	0.063	ng/L	0.072	0.07	ng/cm^2	
Experiment A	A3	LEP07	LEP07-2A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	1.64		Yes	Yes	0.026	0.065	ng/L	0.075	0.074	ng/cm^2	
Experiment A	A3	LEP07	LEP07-2B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	MeHg	1.70		Yes	Yes	0.025	0.062	ng/L	0.077	0.076	ng/cm^2	
Experiment A	A3	LEP07	LEP07-1A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	21.3		Yes	Yes	0.33	0.89	ng/L	0.68	0.65	ng/cm^2	
Experiment A	A3	LEP07	LEP07-1B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	20.6		Yes	Yes	0.33	0.89	ng/L	0.66	0.63	ng/cm^2	
Experiment A	A3	LEP07	LEP07-2A-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	32.2		Yes	Yes	0.33	0.89	ng/L	1	1	ng/cm^2	
Experiment A	A3	LEP07	LEP07-2B-DGT	7	2/17/2012	2/24/2012	N	DGT	NA	THg	25.9		Yes	Yes	0.33	0.89	ng/L	0.82	0.8	ng/cm^2	
Experiment A	A3	LEP07	LEP07-1-TIS	7	2/17/2012	2/24/2012	N	TIS	*L. plumulosus*	MeHg	26.8		Yes	Yes	0.9	2.7	ng/g	27	22	ng/g	
Experiment A	A3	LEP07	LEP07-2-TIS	7	2/17/2012	2/24/2012	N	TIS	*L. plumulosus*	MeHg	28.4		Yes	Yes	1.1	3.3	ng/g	28	23	ng/g	
Experiment A	A3	LEP07	LEP07-1-TIS	7	2/17/2012	2/24/2012	N	TIS	*L. plumulosus*	THg	43.3		Yes	Yes	0.37	0.91	ng/g	43	35	ng/g	
Experiment A	A3	LEP07	LEP07-2-TIS	7	2/17/2012	2/24/2012	N	TIS	*L. plumulosus*	THg	44.8		Yes	Yes	0.44	1.10	ng/g	45	36	ng/g	
Experiment A	A3	LEP10	LEP10-1A-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	MeHg	0.387		Yes	Yes	0.025	0.062	ng/L	0.018	0.016	ng/cm^2	
Experiment A	A3	LEP10	LEP10-1B-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	MeHg	2.26		Yes	Yes	0.025	0.063	ng/L	0.1	0.1	ng/cm^2	
Experiment A	A3	LEP10	LEP10-2A-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	MeHg	0.771		Yes	Yes	0.026	0.064	ng/L	0.035	0.034	ng/cm^2	
Experiment A	A3	LEP10	LEP10-2B-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	MeHg	0.271		Yes	Yes	0.025	0.062	ng/L	0.012	0.011	ng/cm^2	
Experiment A	A3	LEP10	LEP10-1A-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	THg	21.2		Yes	Yes	0.33	0.89	ng/L	0.68	0.65	ng/cm^2	
Experiment A	A3	LEP10	LEP10-1B-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	THg	40.2		Yes	Yes	0.33	0.89	ng/L	1.3	1.3	ng/cm^2	
Experiment A	A3	LEP10	LEP10-2A-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	THg	22.6		Yes	Yes	0.33	0.89	ng/L	0.72	0.69	ng/cm^2	
Experiment A	A3	LEP10	LEP10-2B-DGT	10	2/17/2012	2/27/2012	N	DGT	NA	THg	8.34		Yes	Yes	0.34	0.92	ng/L	0.27	0.24	ng/cm^2	
Experiment A	A3	LEP10	LEP10-1-TIS	10	2/17/2012	2/27/2012	N	TIS	*L. plumulosus*	MeHg	26.7		Yes	Yes	1.0	3.0	ng/g	27	22	ng/g	
Experiment A	A3	LEP10	LEP10-2-TIS	10	2/17/2012	2/27/2012	N	TIS	*L. plumulosus*	MeHg	35.8		Yes	Yes	1.0	3.0	ng/g	36	31	ng/g	
Experiment A	A3	LEP10	LEP10-1-TIS	10	2/17/2012	2/27/2012	N	TIS	*L. plumulosus*	THg	40.5		Yes	Yes	0.40	1.01	ng/g	41	32	ng/g	
Experiment A	A3	LEP10	LEP10-2-TIS	10	2/17/2012	2/27/2012	N	TIS	*L. plumulosus*	THg	51.2		Yes	Yes	0.40	1.00	ng/g	51	43	ng/g	
Experiment A	A3	LEP14	LEP14-1A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	0.896		Yes	Yes	0.025	0.062	ng/L	0.041	0.04	ng/cm^2	
Experiment A	A3	LEP14	LEP14-1B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	1.65		Yes	Yes	0.025	0.063	ng/L	0.075	0.074	ng/cm^2	
Experiment A	A3	LEP14	LEP14-2A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	1.13		Yes	Yes	0.025	0.062	ng/L	0.051	0.05	ng/cm^2	
Experiment A	A3	LEP14	LEP14-2B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	MeHg	0.835		Yes	Yes	0.025	0.062	ng/L	0.038	0.037	ng/cm^2	
Experiment A	A3	LEP14	LEP14-1A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	26.8		Yes	Yes	0.34	0.91	ng/L	0.85	0.83	ng/cm^2	
Experiment A	A3	LEP14	LEP14-1B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	18.7		Yes	Yes	0.33	0.89	ng/L	0.6	0.57	ng/cm^2	
Experiment A	A3	LEP14	LEP14-2A-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	18.7		Yes	Yes	0.34	0.91	ng/L	0.6	0.57	ng/cm^2	
Experiment A	A3	LEP14	LEP14-2B-DGT	14	2/17/2012	3/2/2012	N	DGT	NA	THg	16.1		Yes	Yes	0.33	0.89	ng/L	0.51	0.49	ng/cm^2	
Experiment A	A3	LEP14	LEP14-1-TIS	14	2/17/2012	3/2/2012	N	TIS	*L. plumulosus*	MeHg	34.0		Yes	Yes	1.0	2.9	ng/g	34	29	ng/g	
Experiment A	A3	LEP14	LEP14-2-TIS	14	2/17/2012	3/2/2012	N	TIS	*L. plumulosus*	MeHg	48.5		Yes	Yes	1.1	3.3	ng/g	49	43	ng/g	
Experiment A	A3	LEP14	LEP14-1-TIS	14	2/17/2012	3/2/2012	N	TIS	*L. plumulosus*	THg	55.0		Yes	Yes	0.39	0.97	ng/g	55	46	ng/g	
Experiment A	A3	LEP14	LEP14-2-TIS	14	2/17/2012	3/2/2012	N	TIS	*L. plumulosus*	THg	62.5		Yes	Yes	0.44	1.10	ng/g	63	54	ng/g	
Experiment A	A3	LEP21	LEP21-1A-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	MeHg	1.01		Yes	Yes	0.025	0.063	ng/L	0.046	0.045	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment A	A3	LEP21	LEP21-1B-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	MeHg	1.14		Yes	Yes	0.025	0.062	ng/L	0.052	0.051	ng/cm^2	
Experiment A	A3	LEP21	LEP21-2A-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	MeHg	3.97		Yes	Yes	0.024	0.061	ng/L	0.18	0.18	ng/cm^2	
Experiment A	A3	LEP21	LEP21-2B-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	MeHg	3.49		Yes	Yes	0.024	0.060	ng/L	0.16	0.16	ng/cm^2	
Experiment A	A3	LEP21	LEP21-1A-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	THg	31.0		Yes	Yes	1.67	4.44	ng/L	0.99	0.96	ng/cm^2	
Experiment A	A3	LEP21	LEP21-1B-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	THg	29.6		Yes	Yes	1.67	4.44	ng/L	0.94	0.92	ng/cm^2	
Experiment A	A3	LEP21	LEP21-2A-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	THg	25.0		Yes	Yes	1.67	4.44	ng/L	0.8	0.77	ng/cm^2	
Experiment A	A3	LEP21	LEP21-2B-DGT	21	2/17/2012	3/9/2012	N	DGT	NA	THg	38.3		Yes	Yes	1.67	4.44	ng/L	1.2	1.2	ng/cm^2	
Experiment A	A3	LEP21	LEP21-1-TIS	21	2/17/2012	3/9/2012	N	TIS	*L. plumulosus*	MeHg	36.9		Yes	Yes	1.0	2.9	ng/g	37	32	ng/g	
Experiment A	A3	LEP21	LEP21-2-TIS	21	2/17/2012	3/9/2012	N	TIS	*L. plumulosus*	MeHg	39.4		Yes	Yes	0.9	2.8	ng/g	39	34	ng/g	
Experiment A	A3	LEP21	LEP21-1-TIS	21	2/17/2012	3/9/2012	N	TIS	*L. plumulosus*	THg	59.9		Yes	Yes	0.39	0.97	ng/g	60	51	ng/g	
Experiment A	A3	LEP21	LEP21-2-TIS	21	2/17/2012	3/9/2012	N	TIS	*L. plumulosus*	THg	51.8		Yes	Yes	0.38	0.95	ng/g	52	43	ng/g	
Experiment A	A3	LEP28	LEP28-1A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	2.96	J	Yes	Yes	0.026	0.064	ng/L	0.13	0.13	ng/cm^2	
Experiment A	A3	LEP28	LEP28-1B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	7.78		Yes	Yes	0.202	0.504	ng/L	0.35	0.35	ng/cm^2	
Experiment A	A3	LEP28	LEP28-2A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	2.24	J	Yes	Yes	0.025	0.064	ng/L	0.1	0.1	ng/cm^2	
Experiment A	A3	LEP28	LEP28-2B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	MeHg	4.73	J	Yes	Yes	0.025	0.063	ng/L	0.22	0.21	ng/cm^2	
Experiment A	A3	LEP28	LEP28-1A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	27.1		Yes	Yes	1.67	4.44	ng/L	0.86	0.84	ng/cm^2	
Experiment A	A3	LEP28	LEP28-1B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	37.4		Yes	Yes	1.67	4.44	ng/L	1.2	1.2	ng/cm^2	
Experiment A	A3	LEP28	LEP28-2A-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	27.4		Yes	Yes	1.67	4.44	ng/L	0.87	0.85	ng/cm^2	
Experiment A	A3	LEP28	LEP28-2B-DGT	28	2/17/2012	3/16/2012	N	DGT	NA	THg	34.5		Yes	Yes	1.67	4.44	ng/L	1.1	1.1	ng/cm^2	
Experiment A	A3	LEP28	LEP28-1-POR	28	2/17/2012	3/16/2012	N	POR	NA	MeHg	2.22	B	Yes	Yes	1.03	2.57	ng/L	2.3	1.3	ng/L	
Experiment A	A3	LEP28	LEP28-1-POR	28	2/17/2012	3/16/2012	N	POR	NA	THg	62.1		Yes	Yes	16.9	45.1	ng/L	64	45	ng/L	
Experiment A	A3	LEP28	LEP28-1-SED	28	2/17/2012	3/16/2012	N	SED	NA	%TS	40.21		Yes	Yes	0.10	0.34	%	40	40	%	
Experiment A	A3	LEP28	LEP28-1-SED	28	2/17/2012	3/16/2012	N	SED	NA	MeHg	9.15		Yes	Yes	0.019	0.061	ng/g	9.2	9.2	ng/g	
Experiment A	A3	LEP28	LEP28-1-SED	28	2/17/2012	3/16/2012	N	SED	NA	THg	650		Yes	Yes	24.5	73.4	ng/g	650	650	ng/g	
Experiment A	A3	LEP28	LEP28-1-TIS	28	2/17/2012	3/16/2012	N	TIS	*L. plumulosus*	MeHg	39.2		Yes	Yes	0.9	2.8	ng/g	39	34	ng/g	
Experiment A	A3	LEP28	LEP28-2-TIS	28	2/17/2012	3/16/2012	N	TIS	*L. plumulosus*	MeHg	33.4		Yes	Yes	0.9	2.7	ng/g	33	28	ng/g	
Experiment A	A3	LEP28	LEP28-1-TIS	28	2/17/2012	3/16/2012	N	TIS	*L. plumulosus*	THg	50.4		Yes	Yes	0.38	0.94	ng/g	50	42	ng/g	
Experiment A	A3	LEP28	LEP28-2-TIS	28	2/17/2012	3/16/2012	N	TIS	*L. plumulosus*	THg	48.3		Yes	Yes	0.36	0.91	ng/g	48	40	ng/g	
Experiment A	NA	NA	BNK00-1-POR	0	NA	2/17/2012	B	POR	NA	MeHg	0.999	U	No	Yes	0.999	2.50	ng/L	1.1	0	ng/L	
Experiment A	NA	NA	BNK00-1-POR	0	NA	2/17/2012	B	POR	NA	THg	14.9	J, U	No	Yes	14.9	39.6	ng/L	16	0	ng/L	
Experiment A	NA	NA	BNK55-1-POR	55	NA	4/12/2012	B	POR	NA	MeHg	0.974	U	No	Yes	0.974	2.44	ng/L	1	0	ng/L	
Experiment A	NA	NA	BNK55-1-POR	55	NA	4/12/2012	B	POR	NA	THg	18.5	B	Yes	Yes	16.7	44.4	ng/L	19	0	ng/L	
Experiment B	B1	OCH00	OCH00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.188876856	U	No	Yes	0.196132		ng/L	0.001	0.00013	ng/cm^2	
Experiment B	B1	OCH00	OCH00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.217129062		Yes	Yes	0.199627		ng/L	0.0012	0.00028	ng/cm^2	
Experiment B	B1	OCH00	OCH00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.085296577	U	No	Yes	0.198024		ng/L	0.00045	-0.00042	ng/cm^2	
Experiment B	B1	OCH00	OCH00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.176208828	U	No	Yes	1		ng/L	0.00065	-0.000067	ng/cm^2	
Experiment B	B1	OCH00	OCH00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.100117509	U	No	Yes	1		ng/L	0.00037	-0.00035	ng/cm^2	
Experiment B	B1	OCH00	OCH00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.306594768	U	No	Yes	1		ng/L	0.0011	0.00042	ng/cm^2	
Experiment B	B1	OCH00	OCH00-1-POR	0	NA	10/12/2012	N	POR	NA	THg	6490	J	Yes	No	1.76	4.69	ng/L	7000	6900	ng/L	Value not retained; high blank concentration
Experiment B	B1	OCH00	OCH00-1-SED	0	NA	10/12/2012	N	SED	NA	%LOI	19.35789229		Yes	Yes			%	19	19	%	
Experiment B	B1	OCH00	OCH00-1-SED	0	NA	10/12/2012	N	SED	NA	%TS	35.26		Yes	Yes	0.06	0.19	%	35	35	%	
Experiment B	B1	OCH00	OCH00-1-SED	0	NA	10/12/2012	N	SED	NA	AVS	6.51		Yes	Yes			µmol/g	6.5	6.5	µmol/g	
Experiment B	B1	OCH00	OCH00-1-SED	0	NA	10/12/2012	N	SED	NA	MeHg	8.18		Yes	Yes	0.118	0.367	ng/g	8.2	8.2	ng/g	
Experiment B	B1	OCH00	OCH00-1-SED	0	NA	10/12/2012	N	SED	NA	THg	1010		Yes	Yes	16.1	53.7	ng/g	1000	1000	ng/g	
Experiment B	B1	OCH00	OCH00-1-SED	0	NA	10/12/2012	N	SED	NA	TOC	7.62		Yes	Yes		0.2	%	7.6	7.6	%	
Experiment B	B1	OCH00	OCH00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.6	B	Yes	Yes	1.0	3.1	ng/g	1.6	-0.53	ng/g	
Experiment B	B1	OCH00	OCH00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH00	OCH00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	3.8		Yes	Yes	1.0	3.1	ng/g	3.8	1.7	ng/g	
Experiment B	B1	OCH00	OCH00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.2		Yes	Yes	0.55	1.65	ng/g	11	0.23	ng/g	
Experiment B	B1	OCH00	OCH00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	10.0		Yes	Yes	0.54	1.60	ng/g	10	-0.97	ng/g	
Experiment B	B1	OCH00	OCH00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.7		Yes	Yes	0.55	1.64	ng/g	12	0.73	ng/g	
Experiment B	B1	OCH03	OCH03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	3.861692316		Yes	Yes	0.200272		ng/L	0.02	0.02	ng/cm^2	
Experiment B	B1	OCH03	OCH03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	3.679808593		Yes	Yes	0.197444		ng/L	0.019	0.019	ng/cm^2	
Experiment B	B1	OCH03	OCH03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	3.153338647		Yes	Yes	0.197015		ng/L	0.017	0.016	ng/cm^2	
Experiment B	B1	OCH03	OCH03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	4.95833012		Yes	Yes	0.199686		ng/L	0.026	0.025	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B1	OCH03	OCH03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	2.799482347		Yes	Yes	1.25		ng/L	0.01	0.0096	ng/cm^2	
Experiment B	B1	OCH03	OCH03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	20.33792038		Yes	Yes	1.25		ng/L	0.075	0.075	ng/cm^2	
Experiment B	B1	OCH03	OCH03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	2.104793677		Yes	Yes	1.25		ng/L	0.0078	0.0071	ng/cm^2	
Experiment B	B1	OCH03	OCH03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	3.034242721		Yes	Yes	1.25		ng/L	0.011	0.011	ng/cm^2	
Experiment B	B1	OCH03	OCH03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH03	OCH03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.4	B	Yes	Yes	1.0	3.1	ng/g	1.4	-0.73	ng/g	
Experiment B	B1	OCH03	OCH03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH03	OCH03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH03	OCH03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	10.3	M	Yes	Yes	0.54	1.62	ng/g	10	-0.67	ng/g	
Experiment B	B1	OCH03	OCH03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	13.5		Yes	Yes	0.56	1.68	ng/g	14	2.5	ng/g	
Experiment B	B1	OCH03	OCH03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	6.18		Yes	Yes	0.53	1.57	ng/g	6.2	-4.8	ng/g	
Experiment B	B1	OCH03	OCH03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	7.84		Yes	Yes	0.55	1.64	ng/g	7.8	-3.1	ng/g	
Experiment B	B1	OCH07	OCH07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	2.573191935		Yes	Yes	0.198142		ng/L	0.014	0.013	ng/cm^2	
Experiment B	B1	OCH07	OCH07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	1.392431822		Yes	Yes	0.199123		ng/L	0.0074	0.0065	ng/cm^2	
Experiment B	B1	OCH07	OCH07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	3.394837619		Yes	Yes	0.20002		ng/L	0.018	0.017	ng/cm^2	
Experiment B	B1	OCH07	OCH07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	1.768379568		Yes	Yes	0.200097		ng/L	0.0094	0.0085	ng/cm^2	
Experiment B	B1	OCH07	OCH07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	3.258061428		Yes	Yes	1.25		ng/L	0.012	0.011	ng/cm^2	
Experiment B	B1	OCH07	OCH07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	9.596910508		Yes	Yes	1.25		ng/L	0.036	0.035	ng/cm^2	
Experiment B	B1	OCH07	OCH07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	4.304821132		Yes	Yes	1.25		ng/L	0.016	0.015	ng/cm^2	
Experiment B	B1	OCH07	OCH07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	7.226159169		Yes	Yes	1.25		ng/L	0.027	0.026	ng/cm^2	
Experiment B	B1	OCH07	OCH07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	2.5	B	Yes	Yes	1.0	3.0	ng/g	2.5	0.37	ng/g	
Experiment B	B1	OCH07	OCH07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH07	OCH07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH07	OCH07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH07	OCH07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	12.1		Yes	Yes	0.54	1.62	ng/g	12	1.1	ng/g	
Experiment B	B1	OCH07	OCH07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	8.84		Yes	Yes	0.53	1.58	ng/g	8.8	-2.1	ng/g	
Experiment B	B1	OCH07	OCH07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	7.62		Yes	Yes	0.56	1.68	ng/g	7.6	-3.3	ng/g	
Experiment B	B1	OCH07	OCH07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	20.5		Yes	Yes	0.53	1.59	ng/g	21	9.5	ng/g	
Experiment B	B1	OCH14	OCH14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	4.398565273		Yes	Yes	0.198509		ng/L	0.023	0.022	ng/cm^2	
Experiment B	B1	OCH14	OCH14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	2.454488895		Yes	Yes	0.198259		ng/L	0.013	0.012	ng/cm^2	
Experiment B	B1	OCH14	OCH14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	2.391763461		Yes	Yes	0.198333		ng/L	0.013	0.012	ng/cm^2	
Experiment B	B1	OCH14	OCH14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	4.72627384		Yes	Yes	0.199921		ng/L	0.025	0.024	ng/cm^2	
Experiment B	B1	OCH14	OCH14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	3.457583425		Yes	Yes	2.5		ng/L	0.013	0.012	ng/cm^2	
Experiment B	B1	OCH14	OCH14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	7.724002328		Yes	Yes	6.25		ng/L	0.029	0.028	ng/cm^2	
Experiment B	B1	OCH14	OCH14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	13.94064912		Yes	Yes	2.5		ng/L	0.052	0.051	ng/cm^2	
Experiment B	B1	OCH14	OCH14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	63.43768358		Yes	Yes	2.5		ng/L	0.23	0.23	ng/cm^2	
Experiment B	B1	OCH14	OCH14-1A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH14	OCH14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.2	B	Yes	Yes	1.0	3.0	ng/g	1.2	-0.93	ng/g	
Experiment B	B1	OCH14	OCH14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH14	OCH14-2B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B1	OCH14	OCH14-1A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	8.43		Yes	Yes	0.53	1.59	ng/g	8.4	-2.5	ng/g	
Experiment B	B1	OCH14	OCH14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	37.3		Yes	Yes	0.55	1.63	ng/g	37	26	ng/g	
Experiment B	B1	OCH14	OCH14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	11.3		Yes	Yes	0.51	1.53	ng/g	11	0.33	ng/g	
Experiment B	B1	OCH14	OCH14-2B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	11.1		Yes	Yes	0.55	1.64	ng/g	11	0.13	ng/g	
Experiment B	B1	OCH21	OCH21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	6.79083982		Yes	Yes	0.197802		ng/L	0.036	0.035	ng/cm^2	
Experiment B	B1	OCH21	OCH21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	11.25831195		Yes	Yes	0.198312		ng/L	0.06	0.059	ng/cm^2	
Experiment B	B1	OCH21	OCH21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	6.278406973		Yes	Yes	0.211256		ng/L	0.033	0.032	ng/cm^2	
Experiment B	B1	OCH21	OCH21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	12.74009007		Yes	Yes	0.197451		ng/L	0.068	0.067	ng/cm^2	
Experiment B	B1	OCH21	OCH21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	148.570658		Yes	Yes	12.5		ng/L	0.55	0.55	ng/cm^2	
Experiment B	B1	OCH21	OCH21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	134.3085557		Yes	Yes	12.5		ng/L	0.5	0.5	ng/cm^2	
Experiment B	B1	OCH21	OCH21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	145.3561827		Yes	Yes	12.5		ng/L	0.54	0.54	ng/cm^2	
Experiment B	B1	OCH21	OCH21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	150.2353717		Yes	Yes	12.5		ng/L	0.56	0.56	ng/cm^2	
Experiment B	B1	OCH21	OCH21-1A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	3.5		Yes	Yes	1.0	3.1	ng/g	3.5	1.4	ng/g	
Experiment B	B1	OCH21	OCH21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	2.3	B	Yes	Yes	1.0	3.0	ng/g	2.3	0.17	ng/g	
Experiment B	B1	OCH21	OCH21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	2.3	B	Yes	Yes	1.1	3.2	ng/g	2.3	0.17	ng/g	
Experiment B	B1	OCH21	OCH21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	2.3	B	Yes	Yes	1.0	3.1	ng/g	2.3	0.17	ng/g	
Experiment B	B1	OCH21	OCH21-1A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	10.1		Yes	Yes	0.13	0.43	ng/g	10	-0.87	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B1	OCH21	OCH21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	12.0		Yes	Yes	0.13	0.42	ng/g	12	1	ng/g	
Experiment B	B1	OCH21	OCH21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	14.4		Yes	Yes	0.19	0.64	ng/g	14	3.4	ng/g	
Experiment B	B1	OCH21	OCH21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	17.9		Yes	Yes	0.22	0.74	ng/g	18	6.9	ng/g	
Experiment B	B1	OCH28	OCH28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	11.93949982		Yes	Yes	0.200413		ng/L	0.063	0.062	ng/cm^2	
Experiment B	B1	OCH28	OCH28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	11.68576443		Yes	Yes	0.199802		ng/L	0.062	0.061	ng/cm^2	
Experiment B	B1	OCH28	OCH28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	16.03675425		Yes	Yes	0.2002		ng/L	0.085	0.084	ng/cm^2	
Experiment B	B1	OCH28	OCH28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	16.37234944		Yes	Yes	0.200345		ng/L	0.087	0.086	ng/cm^2	
Experiment B	B1	OCH28	OCH28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	218.1850199		Yes	Yes	25		ng/L	0.81	0.81	ng/cm^2	
Experiment B	B1	OCH28	OCH28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	116.750487		Yes	Yes	25		ng/L	0.43	0.43	ng/cm^2	
Experiment B	B1	OCH28	OCH28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	28.19778669		Yes	Yes	25		ng/L	0.1	0.1	ng/cm^2	
Experiment B	B1	OCH28	OCH28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	85.31598847		Yes	Yes	25		ng/L	0.32	0.32	ng/cm^2	
Experiment B	B1	OCH28	OCH28-1A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	1.7	H, B	Yes	Yes	1.0	3.0	ng/g	1.7	-0.43	ng/g	
Experiment B	B1	OCH28	OCH28-1B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	2.8	H, B	Yes	Yes	1.0	3.1	ng/g	2.8	0.67	ng/g	
Experiment B	B1	OCH28	OCH28-2A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	1.7	H, B	Yes	Yes	0.9	2.8	ng/g	1.7	-0.43	ng/g	
Experiment B	B1	OCH28	OCH28-2B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	2.2	H, B	Yes	Yes	0.9	2.8	ng/g	2.2	0.067	ng/g	
Experiment B	B1	OCH28	OCH28-1A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	15.5	H	Yes	Yes	0.21	0.71	ng/g	16	4.5	ng/g	
Experiment B	B1	OCH28	OCH28-1B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	12.5	H	Yes	Yes	0.22	0.74	ng/g	13	1.5	ng/g	
Experiment B	B1	OCH28	OCH28-2A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	25.9	H	Yes	Yes	0.20	0.65	ng/g	26	15	ng/g	
Experiment B	B1	OCH28	OCH28-2B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	25.6	H	Yes	Yes	0.21	0.71	ng/g	26	15	ng/g	
Experiment B	B1	OCH35	OCH35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	52.8655694		Yes	Yes	0.40893		ng/L	0.28	0.28	ng/cm^2	
Experiment B	B1	OCH35	OCH35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	73.68692242		Yes	Yes	0.400993		ng/L	0.39	0.39	ng/cm^2	
Experiment B	B1	OCH35	OCH35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	34.33907297		Yes	Yes	0.402509		ng/L	0.18	0.18	ng/cm^2	
Experiment B	B1	OCH35	OCH35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	31.96975887		Yes	Yes	0.401147		ng/L	0.17	0.17	ng/cm^2	
Experiment B	B1	OCH35	OCH35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	6.94		Yes	No	2.5		ng/L	0.026	0.025	ng/cm^2	Value not retained; outlier
Experiment B	B1	OCH35	OCH35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	10.00		Yes	No	2.5		ng/L	0.037	0.036	ng/cm^2	Value not retained; outlier
Experiment B	B1	OCH35	OCH35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	188.4054255		Yes	Yes	25		ng/L	0.7	0.7	ng/cm^2	
Experiment B	B1	OCH35	OCH35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	213.4569044		Yes	Yes	25		ng/L	0.79	0.79	ng/cm^2	
Experiment B	B1	OCH35	OCH35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	MeHg	0.996	U	No	Yes	0.996	2.49	ng/L	1.1	0.038	ng/L	
Experiment B	B1	OCH35	OCH35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	THg	173		Yes	Yes	3.55	9.46	ng/L	190	80	ng/L	
Experiment B	B1	OCH35	OCH35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	%TS	31.72		Yes	Yes	0.06	0.21	%	32	32	%	
Experiment B	B1	OCH35	OCH35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	AVS	7.51		Yes	Yes			µmol/g	7.5	7.5	µmol/g	
Experiment B	B1	OCH35	OCH35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	MeHg	9.92		Yes	Yes	0.133	0.417	ng/g	9.9	9.9	ng/g	
Experiment B	B1	OCH35	OCH35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	THg	1080		Yes	Yes	9.20	30.7	ng/g	1100	1100	ng/g	
Experiment B	B1	OCH35	OCH35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	TOC	7.83		Yes	Yes		0.2	%	7.8	7.8	%	
Experiment B	B1	OCH35	OCH35-1B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	2.3	B	Yes	Yes	1.0	2.9	ng/g	2.3	0.17	ng/g	
Experiment B	B1	OCH35	OCH35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	3.8		Yes	Yes	1.0	3.1	ng/g	3.8	1.7	ng/g	
Experiment B	B1	OCH35	OCH35-2B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	4.0		Yes	Yes	1.0	3.0	ng/g	4	1.9	ng/g	
Experiment B	B1	OCH35	OCH35-1B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	16.9		Yes	Yes	0.21	0.70	ng/g	17	5.9	ng/g	
Experiment B	B1	OCH35	OCH35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	21.9		Yes	Yes	0.22	0.74	ng/g	22	11	ng/g	
Experiment B	B1	OCH35	OCH35-2B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	21.8		Yes	Yes	0.21	0.69	ng/g	22	11	ng/g	
Experiment B	B2	OCM00	OCM00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.188876856	U	No	Yes	0.196132		ng/L	0.001	0.00013	ng/cm^2	
Experiment B	B2	OCM00	OCM00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.217129062		Yes	Yes	0.199627		ng/L	0.0012	0.00028	ng/cm^2	
Experiment B	B2	OCM00	OCM00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.085296577	U	No	Yes	0.198024		ng/L	0.00045	-0.00042	ng/cm^2	
Experiment B	B2	OCM00	OCM00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.176208828	U	No	Yes	1		ng/L	0.00065	-0.000067	ng/cm^2	
Experiment B	B2	OCM00	OCM00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.100117509	U	No	Yes	1		ng/L	0.00037	-0.00035	ng/cm^2	
Experiment B	B2	OCM00	OCM00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.306594768	U	No	Yes	1		ng/L	0.0011	0.00042	ng/cm^2	
Experiment B	B2	OCM00	OCM00-1-POR	0	NA	10/12/2012	N	POR	NA	THg	702	J	Yes	No	1.61	4.29	ng/L	760	650	ng/L	Value not retained; high blank concentration
Experiment B	B2	OCM00	OCM00-1-SED	0	NA	10/12/2012	N	SED	NA	%LOI	7.030760193		Yes	Yes			%	7	7	%	
Experiment B	B2	OCM00	OCM00-1-SED	0	NA	10/12/2012	N	SED	NA	%TS	55.62		Yes	Yes	0.06	0.19	%	56	56	%	
Experiment B	B2	OCM00	OCM00-1-SED	0	NA	10/12/2012	N	SED	NA	AVS	2.95		Yes	Yes			µmol/g	3	3	µmol/g	
Experiment B	B2	OCM00	OCM00-1-SED	0	NA	10/12/2012	N	SED	NA	MeHg	5.61		Yes	Yes	0.074	0.233	ng/g	5.6	5.6	ng/g	
Experiment B	B2	OCM00	OCM00-1-SED	0	NA	10/12/2012	N	SED	NA	THg	404		Yes	Yes	10.4	34.7	ng/g	400	400	ng/g	
Experiment B	B2	OCM00	OCM00-1-SED	0	NA	10/12/2012	N	SED	NA	TOC	3.83		Yes	Yes		0.2	%	3.8	3.8	%	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B2	OCM00	OCM00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.6	B	Yes	Yes	1.0	3.1	ng/g	1.6	-0.53	ng/g	
Experiment B	B2	OCM00	OCM00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM00	OCM00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	3.8		Yes	Yes	1.0	3.1	ng/g	3.8	1.7	ng/g	
Experiment B	B2	OCM00	OCM00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.2		Yes	Yes	0.55	1.65	ng/g	11	0.23	ng/g	
Experiment B	B2	OCM00	OCM00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	10.0		Yes	Yes	0.54	1.60	ng/g	10	-0.97	ng/g	
Experiment B	B2	OCM00	OCM00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.7		Yes	Yes	0.55	1.64	ng/g	12	0.73	ng/g	
Experiment B	B2	OCM03	OCM03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	1.169389957		Yes	Yes	0.198552		ng/L	0.0062	0.0053	ng/cm^2	
Experiment B	B2	OCM03	OCM03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.893166262		Yes	Yes	0.198396		ng/L	0.0047	0.0039	ng/cm^2	
Experiment B	B2	OCM03	OCM03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.508270961		Yes	Yes	0.198296		ng/L	0.0027	0.0018	ng/cm^2	
Experiment B	B2	OCM03	OCM03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	2.338749972		Yes	Yes	0.200126		ng/L	0.012	0.012	ng/cm^2	
Experiment B	B2	OCM03	OCM03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	1.983417762		Yes	Yes	1.25		ng/L	0.0073	0.0066	ng/cm^2	
Experiment B	B2	OCM03	OCM03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	1.915432733		Yes	Yes	1.25		ng/L	0.0071	0.0064	ng/cm^2	
Experiment B	B2	OCM03	OCM03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	3.968140821		Yes	Yes	1.25		ng/L	0.015	0.014	ng/cm^2	
Experiment B	B2	OCM03	OCM03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	3.177800729		Yes	Yes	1.25		ng/L	0.012	0.011	ng/cm^2	
Experiment B	B2	OCM03	OCM03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM03	OCM03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.7	B	Yes	Yes	1.0	3.0	ng/g	1.7	-0.43	ng/g	
Experiment B	B2	OCM03	OCM03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM03	OCM03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM03	OCM03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	10.8		Yes	Yes	0.54	1.61	ng/g	11	-0.17	ng/g	
Experiment B	B2	OCM03	OCM03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	9.22		Yes	Yes	0.54	1.60	ng/g	9.2	-1.7	ng/g	
Experiment B	B2	OCM03	OCM03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	9.64		Yes	Yes	0.56	1.67	ng/g	9.6	-1.3	ng/g	
Experiment B	B2	OCM03	OCM03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	7.86		Yes	Yes	0.52	1.56	ng/g	7.9	-3.1	ng/g	
Experiment B	B2	OCM07	OCM07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	2.59208341		Yes	Yes	0.2008		ng/L	0.014	0.013	ng/cm^2	
Experiment B	B2	OCM07	OCM07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	0.880665539		Yes	Yes	0.197488		ng/L	0.0047	0.0038	ng/cm^2	
Experiment B	B2	OCM07	OCM07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	2.555437341		Yes	Yes	0.200948		ng/L	0.014	0.013	ng/cm^2	
Experiment B	B2	OCM07	OCM07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	0.87652896		Yes	Yes	0.199002		ng/L	0.0046	0.0038	ng/cm^2	
Experiment B	B2	OCM07	OCM07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	44.27210707		Yes	Yes	1.25		ng/L	0.16	0.16	ng/cm^2	
Experiment B	B2	OCM07	OCM07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	70.43140655		Yes	Yes	2.5		ng/L	0.26	0.26	ng/cm^2	
Experiment B	B2	OCM07	OCM07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	1.743759961		Yes	Yes	1.25		ng/L	0.0065	0.0057	ng/cm^2	
Experiment B	B2	OCM07	OCM07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	1.652657071		Yes	Yes	1.25		ng/L	0.0061	0.0054	ng/cm^2	
Experiment B	B2	OCM07	OCM07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.4	B	Yes	Yes	1.0	3.1	ng/g	1.4	-0.73	ng/g	
Experiment B	B2	OCM07	OCM07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM07	OCM07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM07	OCM07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.6	B	Yes	Yes	0.9	2.8	ng/g	1.6	-0.53	ng/g	
Experiment B	B2	OCM07	OCM07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	9.60		Yes	Yes	0.56	1.68	ng/g	9.6	-1.4	ng/g	
Experiment B	B2	OCM07	OCM07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	16.4		Yes	Yes	0.53	1.59	ng/g	16	5.4	ng/g	
Experiment B	B2	OCM07	OCM07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	9.30		Yes	Yes	0.52	1.55	ng/g	9.3	-1.7	ng/g	
Experiment B	B2	OCM07	OCM07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	11.5		Yes	Yes	0.50	1.48	ng/g	12	0.53	ng/g	
Experiment B	B2	OCM14	OCM14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	6.142460798		Yes	Yes	0.197075		ng/L	0.033	0.032	ng/cm^2	
Experiment B	B2	OCM14	OCM14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	1.21976387		Yes	Yes	0.19806		ng/L	0.0065	0.0056	ng/cm^2	
Experiment B	B2	OCM14	OCM14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	3.123002121		Yes	Yes	0.198697		ng/L	0.017	0.016	ng/cm^2	
Experiment B	B2	OCM14	OCM14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	5.229582075		Yes	Yes	0.197655		ng/L	0.028	0.027	ng/cm^2	
Experiment B	B2	OCM14	OCM14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	95.52865398		Yes	Yes	5		ng/L	0.35	0.35	ng/cm^2	
Experiment B	B2	OCM14	OCM14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	162.2466546		Yes	Yes	5		ng/L	0.6	0.6	ng/cm^2	
Experiment B	B2	OCM14	OCM14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	29.65917336		Yes	Yes	5		ng/L	0.11	0.11	ng/cm^2	
Experiment B	B2	OCM14	OCM14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	14.77384482		Yes	Yes	10		ng/L	0.055	0.054	ng/cm^2	
Experiment B	B2	OCM14	OCM14-1A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	2.4	B	Yes	Yes	1.0	3.0	ng/g	2.4	0.27	ng/g	
Experiment B	B2	OCM14	OCM14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B2	OCM14	OCM14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	3.5		Yes	Yes	0.9	2.8	ng/g	3.5	1.4	ng/g	
Experiment B	B2	OCM14	OCM14-2B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.1	B	Yes	Yes	0.9	2.7	ng/g	1.1	-1	ng/g	
Experiment B	B2	OCM14	OCM14-1A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	12.4		Yes	Yes	0.53	1.59	ng/g	12	1.4	ng/g	
Experiment B	B2	OCM14	OCM14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	9.39		Yes	Yes	0.53	1.58	ng/g	9.4	-1.6	ng/g	
Experiment B	B2	OCM14	OCM14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	10.8		Yes	Yes	0.50	1.49	ng/g	11	-0.17	ng/g	
Experiment B	B2	OCM14	OCM14-2B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	55.9		Yes	Yes	0.49	1.48	ng/g	56	45	ng/g	
Experiment B	B2	OCM21	OCM21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	8.059865482		Yes	Yes	0.196917		ng/L	0.043	0.042	ng/cm^2	
Experiment B	B2	OCM21	OCM21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	12.5270213		Yes	Yes	0.197077		ng/L	0.066	0.066	ng/cm^2	
Experiment B	B2	OCM21	OCM21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	9.329462598		Yes	Yes	0.198995		ng/L	0.049	0.049	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B2	OCM21	OCM21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	8.715207395		Yes	Yes	0.199613		ng/L	0.046	0.045	ng/cm^2	
Experiment B	B2	OCM21	OCM21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	73.66426322		Yes	Yes	10		ng/L	0.27	0.27	ng/cm^2	
Experiment B	B2	OCM21	OCM21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	53.06933869		Yes	Yes	10		ng/L	0.2	0.2	ng/cm^2	
Experiment B	B2	OCM21	OCM21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	81.72337777		Yes	Yes	10		ng/L	0.3	0.3	ng/cm^2	
Experiment B	B2	OCM21	OCM21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	38.48549314		Yes	Yes	10		ng/L	0.14	0.14	ng/cm^2	
Experiment B	B2	OCM21	OCM21-1A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	2.1	B	Yes	Yes	1.0	3.0	ng/g	2.1	-0.033	ng/g	
Experiment B	B2	OCM21	OCM21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	1.9	B	Yes	Yes	1.0	3.0	ng/g	1.9	-0.23	ng/g	
Experiment B	B2	OCM21	OCM21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	1.5	B	Yes	Yes	1.0	3.0	ng/g	1.5	-0.63	ng/g	
Experiment B	B2	OCM21	OCM21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	3.8		Yes	Yes	0.9	2.8	ng/g	3.8	1.7	ng/g	
Experiment B	B2	OCM21	OCM21-1A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	19.9		Yes	Yes	0.21	0.69	ng/g	20	8.9	ng/g	
Experiment B	B2	OCM21	OCM21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	31.1		Yes	Yes	0.22	0.73	ng/g	31	20	ng/g	
Experiment B	B2	OCM21	OCM21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	13.5		Yes	Yes	0.23	0.78	ng/g	14	2.5	ng/g	
Experiment B	B2	OCM21	OCM21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	22.1		Yes	Yes	0.20	0.66	ng/g	22	11	ng/g	
Experiment B	B2	OCM28	OCM28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	6.921472366		Yes	Yes	0.198538		ng/L	0.037	0.036	ng/cm^2	
Experiment B	B2	OCM28	OCM28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	8.416281691		Yes	Yes	0.199778		ng/L	0.045	0.044	ng/cm^2	
Experiment B	B2	OCM28	OCM28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	9.038699084		Yes	Yes	0.198956		ng/L	0.048	0.047	ng/cm^2	
Experiment B	B2	OCM28	OCM28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	5.810762721		Yes	Yes	0.197433		ng/L	0.031	0.03	ng/cm^2	
Experiment B	B2	OCM28	OCM28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	63.54411919		Yes	Yes	12.5		ng/L	0.24	0.23	ng/cm^2	
Experiment B	B2	OCM28	OCM28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	31.54232978		Yes	Yes	12.5		ng/L	0.12	0.12	ng/cm^2	
Experiment B	B2	OCM28	OCM28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	90.97819506		Yes	Yes	12.5		ng/L	0.34	0.34	ng/cm^2	
Experiment B	B2	OCM28	OCM28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	25.11915724		Yes	Yes	12.5		ng/L	0.093	0.092	ng/cm^2	
Experiment B	B2	OCM28	OCM28-1A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	1.2	H, B	Yes	Yes	0.9	2.8	ng/g	1.2	-0.93	ng/g	
Experiment B	B2	OCM28	OCM28-1B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	2.6	H, B	Yes	Yes	0.9	2.8	ng/g	2.6	0.47	ng/g	
Experiment B	B2	OCM28	OCM28-2A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	6.5	H	Yes	Yes	1.0	3.0	ng/g	6.5	4.4	ng/g	
Experiment B	B2	OCM28	OCM28-2B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	5.3	H	Yes	Yes	0.9	2.7	ng/g	5.3	3.2	ng/g	
Experiment B	B2	OCM28	OCM28-1A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	15.8	H	Yes	Yes	0.20	0.67	ng/g	16	4.8	ng/g	
Experiment B	B2	OCM28	OCM28-1B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	12.6	H	Yes	Yes	0.21	0.69	ng/g	13	1.6	ng/g	
Experiment B	B2	OCM28	OCM28-2A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	30.2	H	Yes	Yes	0.23	0.75	ng/g	30	19	ng/g	
Experiment B	B2	OCM28	OCM28-2B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	16.1	H	Yes	Yes	0.21	0.68	ng/g	16	5.1	ng/g	
Experiment B	B2	OCM35	OCM35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	13.14044397		Yes	Yes	0.198503		ng/L	0.07	0.069	ng/cm^2	
Experiment B	B2	OCM35	OCM35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	9.652160293		Yes	Yes	0.196175		ng/L	0.051	0.05	ng/cm^2	
Experiment B	B2	OCM35	OCM35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	10.07652457		Yes	Yes	0.198974		ng/L	0.053	0.053	ng/cm^2	
Experiment B	B2	OCM35	OCM35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	6.839339084		Yes	Yes	0.193095		ng/L	0.036	0.035	ng/cm^2	
Experiment B	B2	OCM35	OCM35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	121.0610266		Yes	Yes	12.5		ng/L	0.45	0.45	ng/cm^2	
Experiment B	B2	OCM35	OCM35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	45.88189215		Yes	Yes	12.5		ng/L	0.17	0.17	ng/cm^2	
Experiment B	B2	OCM35	OCM35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	74.343711		Yes	Yes	12.5		ng/L	0.28	0.27	ng/cm^2	
Experiment B	B2	OCM35	OCM35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	99.54361232		Yes	Yes	12.5		ng/L	0.37	0.37	ng/cm^2	
Experiment B	B2	OCM35	OCM35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	MeHg	0.975	U	No	Yes	0.975	2.44	ng/L	1.1	0.015	ng/L	
Experiment B	B2	OCM35	OCM35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	THg	210		Yes	Yes	3.27	8.71	ng/L	230	120	ng/L	
Experiment B	B2	OCM35	OCM35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	%TS	48.47		Yes	Yes	0.06	0.21	%	48	48	%	
Experiment B	B2	OCM35	OCM35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	AVS	2.28		Yes	Yes			µmol/g	2.3	2.3	µmol/g	
Experiment B	B2	OCM35	OCM35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	MeHg	5.91		Yes	Yes	0.082	0.258	ng/g	5.9	5.9	ng/g	
Experiment B	B2	OCM35	OCM35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	THg	424		Yes	Yes	5.77	19.2	ng/g	420	420	ng/g	
Experiment B	B2	OCM35	OCM35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	TOC	3.36		Yes	Yes		0.2	%	3.4	3.4	%	
Experiment B	B2	OCM35	OCM35-1A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	3.5		Yes	Yes	1.0	3.1	ng/g	3.5	1.4	ng/g	
Experiment B	B2	OCM35	OCM35-1B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	1.6	B	Yes	Yes	1.0	3.1	ng/g	1.6	-0.53	ng/g	
Experiment B	B2	OCM35	OCM35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	2.4	B	Yes	Yes	1.0	3.1	ng/g	2.4	0.27	ng/g	
Experiment B	B2	OCM35	OCM35-2B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	1.2	B	Yes	Yes	0.9	2.8	ng/g	1.2	-0.93	ng/g	
Experiment B	B2	OCM35	OCM35-1A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	31.8		Yes	Yes	0.24	0.78	ng/g	32	21	ng/g	
Experiment B	B2	OCM35	OCM35-1B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	20.0		Yes	Yes	0.22	0.75	ng/g	20	9	ng/g	
Experiment B	B2	OCM35	OCM35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	23.2		Yes	Yes	0.22	0.72	ng/g	23	12	ng/g	
Experiment B	B2	OCM35	OCM35-2B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	13.2		Yes	Yes	0.20	0.68	ng/g	13	2.2	ng/g	
Experiment B	B3	OCL00	OCL00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.188876856	U	No	Yes	0.196132		ng/L	0.001	0.00013	ng/cm^2	
Experiment B	B3	OCL00	OCL00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.217129062		Yes	Yes	0.199627		ng/L	0.0012	0.00028	ng/cm^2	
Experiment B	B3	OCL00	OCL00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.085296577	U	No	Yes	0.198024		ng/L	0.00045	-0.00042	ng/cm^2	
Experiment B	B3	OCL00	OCL00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.176208828	U	No	Yes	1		ng/L	0.00065	-0.000067	ng/cm^2	
Experiment B	B3	OCL00	OCL00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.100117509	U	No	Yes	1		ng/L	0.00037	-0.00035	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B3	OCL00	OCL00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.306594768	U	No	Yes	1		ng/L	0.0011	0.00042	ng/cm^2	
Experiment B	B3	OCL00	OCL00-1-POR	0	NA	10/12/2012	N	POR	NA	THg	84.6	J	Yes	No	1.69	4.52	ng/L	92	-16	ng/L	Value not retained; high blank concentration
Experiment B	B3	OCL00	OCL00-1-SED	0	NA	10/12/2012	N	SED	NA	%LOI	4.488532437		Yes	Yes			%	4.5	4.5	%	
Experiment B	B3	OCL00	OCL00-1-SED	0	NA	10/12/2012	N	SED	NA	%TS	69.14		Yes	Yes	0.06	0.19	%	69	69	%	
Experiment B	B3	OCL00	OCL00-1-SED	0	NA	10/12/2012	N	SED	NA	AVS	0.36		Yes	Yes			µmol/g	0.36	0.36	µmol/g	
Experiment B	B3	OCL00	OCL00-1-SED	0	NA	10/12/2012	N	SED	NA	MeHg	3.06		Yes	Yes	0.061	0.192	ng/g	3.1	3.1	ng/g	
Experiment B	B3	OCL00	OCL00-1-SED	0	NA	10/12/2012	N	SED	NA	THg	226		Yes	Yes	8.72	29.1	ng/g	230	230	ng/g	
Experiment B	B3	OCL00	OCL00-1-SED	0	NA	10/12/2012	N	SED	NA	TOC	1.34		Yes	Yes		0.2	%	1.3	1.3	%	
Experiment B	B3	OCL00	OCL00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.6	B	Yes	Yes	1.0	3.1	ng/g	1.6	-0.53	ng/g	
Experiment B	B3	OCL00	OCL00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL00	OCL00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	3.8		Yes	Yes	1.0	3.1	ng/g	3.8	1.7	ng/g	
Experiment B	B3	OCL00	OCL00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.2		Yes	Yes	0.55	1.65	ng/g	11	0.23	ng/g	
Experiment B	B3	OCL00	OCL00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	10.0		Yes	Yes	0.54	1.60	ng/g	10	-0.97	ng/g	
Experiment B	B3	OCL00	OCL00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.7		Yes	Yes	0.55	1.64	ng/g	12	0.73	ng/g	
Experiment B	B3	OCL03	OCL03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.849129985		Yes	Yes	0.197021		ng/L	0.0045	0.0036	ng/cm^2	
Experiment B	B3	OCL03	OCL03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	1.15113558		Yes	Yes	0.199318		ng/L	0.0061	0.0052	ng/cm^2	
Experiment B	B3	OCL03	OCL03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	1.487691316		Yes	Yes	0.197856		ng/L	0.0079	0.007	ng/cm^2	
Experiment B	B3	OCL03	OCL03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	1.68537777		Yes	Yes	0.199025		ng/L	0.0089	0.0081	ng/cm^2	
Experiment B	B3	OCL03	OCL03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	2.109322255		Yes	Yes	1.25		ng/L	0.0078	0.0071	ng/cm^2	
Experiment B	B3	OCL03	OCL03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	2.088048992		Yes	Yes	1.25		ng/L	0.0077	0.007	ng/cm^2	
Experiment B	B3	OCL03	OCL03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	4.126933207		Yes	Yes	1.25		ng/L	0.015	0.015	ng/cm^2	
Experiment B	B3	OCL03	OCL03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	26.0863422		Yes	Yes	1.25		ng/L	0.097	0.096	ng/cm^2	
Experiment B	B3	OCL03	OCL03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL03	OCL03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.2	B	Yes	Yes	1.0	3.0	ng/g	1.2	-0.93	ng/g	
Experiment B	B3	OCL03	OCL03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.2	B	Yes	Yes	1.0	3.0	ng/g	1.2	-0.93	ng/g	
Experiment B	B3	OCL03	OCL03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL03	OCL03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	7.13		Yes	Yes	0.52	1.55	ng/g	7.1	-3.8	ng/g	
Experiment B	B3	OCL03	OCL03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	11.6		Yes	Yes	0.55	1.63	ng/g	12	0.63	ng/g	
Experiment B	B3	OCL03	OCL03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	16.7	M	Yes	Yes	0.54	1.61	ng/g	17	5.7	ng/g	
Experiment B	B3	OCL03	OCL03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	16.3		Yes	Yes	0.57	1.69	ng/g	16	5.3	ng/g	
Experiment B	B3	OCL07	OCL07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	2.554970111		Yes	Yes	0.197782		ng/L	0.014	0.013	ng/cm^2	
Experiment B	B3	OCL07	OCL07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	2.127585311		Yes	Yes	0.199166		ng/L	0.011	0.01	ng/cm^2	
Experiment B	B3	OCL07	OCL07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	1.590252435		Yes	Yes	0.200263		ng/L	0.0084	0.0076	ng/cm^2	
Experiment B	B3	OCL07	OCL07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	1.395287974		Yes	Yes	0.19878		ng/L	0.0074	0.0065	ng/cm^2	
Experiment B	B3	OCL07	OCL07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	3.45964921		Yes	Yes	1.25		ng/L	0.013	0.012	ng/cm^2	
Experiment B	B3	OCL07	OCL07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	5.284563025		Yes	Yes	1.25		ng/L	0.02	0.019	ng/cm^2	
Experiment B	B3	OCL07	OCL07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	5.10338469		Yes	Yes	1.25		ng/L	0.019	0.018	ng/cm^2	
Experiment B	B3	OCL07	OCL07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	1.904487355		Yes	Yes	1.25		ng/L	0.0071	0.0063	ng/cm^2	
Experiment B	B3	OCL07	OCL07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL07	OCL07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	2.2	B	Yes	Yes	1.0	2.9	ng/g	2.2	0.067	ng/g	
Experiment B	B3	OCL07	OCL07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL07	OCL07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL07	OCL07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	15.8		Yes	Yes	0.55	1.63	ng/g	16	4.8	ng/g	
Experiment B	B3	OCL07	OCL07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	12.2		Yes	Yes	0.52	1.56	ng/g	12	1.2	ng/g	
Experiment B	B3	OCL07	OCL07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	9.43		Yes	Yes	0.54	1.62	ng/g	9.4	-1.5	ng/g	
Experiment B	B3	OCL07	OCL07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	21.0		Yes	Yes	0.52	1.56	ng/g	21	10	ng/g	
Experiment B	B3	OCL14	OCL14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	1.880235565		Yes	Yes	0.199423		ng/L	0.01	0.0091	ng/cm^2	
Experiment B	B3	OCL14	OCL14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	0.987527131		Yes	Yes	0.19998		ng/L	0.0052	0.0044	ng/cm^2	
Experiment B	B3	OCL14	OCL14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	1.586015052		Yes	Yes	0.200925		ng/L	0.0084	0.0075	ng/cm^2	
Experiment B	B3	OCL14	OCL14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	1.931839949		Yes	Yes	0.199583		ng/L	0.01	0.0094	ng/cm^2	
Experiment B	B3	OCL14	OCL14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	15.20354915		Yes	Yes	1.25		ng/L	0.056	0.056	ng/cm^2	
Experiment B	B3	OCL14	OCL14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	89.40661163		Yes	Yes	6.25		ng/L	0.33	0.33	ng/cm^2	
Experiment B	B3	OCL14	OCL14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	9.342501958		Yes	Yes	2.5		ng/L	0.035	0.034	ng/cm^2	
Experiment B	B3	OCL14	OCL14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	14.57914498		Yes	Yes	2.5		ng/L	0.054	0.053	ng/cm^2	
Experiment B	B3	OCL14	OCL14-1A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B3	OCL14	OCL14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL14	OCL14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	0.9	U	No	Yes	0.9	2.7	ng/g	0.9	-1.2	ng/g	
Experiment B	B3	OCL14	OCL14-2B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	2.1	B	Yes	Yes	1.0	3.1	ng/g	2.1	-0.033	ng/g	
Experiment B	B3	OCL14	OCL14-1A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	41.6	M	Yes	Yes	0.53	1.58	ng/g	42	31	ng/g	
Experiment B	B3	OCL14	OCL14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	16.6		Yes	Yes	0.54	1.61	ng/g	17	5.6	ng/g	
Experiment B	B3	OCL14	OCL14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	8.68		Yes	Yes	0.49	1.47	ng/g	8.7	-2.3	ng/g	
Experiment B	B3	OCL14	OCL14-2B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	10.2		Yes	Yes	0.56	1.66	ng/g	10	-0.77	ng/g	
Experiment B	B3	OCL21	OCL21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	3.386461291		Yes	Yes	0.199816		ng/L	0.018	0.017	ng/cm^2	
Experiment B	B3	OCL21	OCL21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	2.758154896		Yes	Yes	0.198198		ng/L	0.015	0.014	ng/cm^2	
Experiment B	B3	OCL21	OCL21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	3.26681713		Yes	Yes	0.196596		ng/L	0.017	0.016	ng/cm^2	
Experiment B	B3	OCL21	OCL21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	3.702899095		Yes	Yes	0.198183		ng/L	0.02	0.019	ng/cm^2	
Experiment B	B3	OCL21	OCL21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	40.47712857		Yes	Yes	5		ng/L	0.15	0.15	ng/cm^2	
Experiment B	B3	OCL21	OCL21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	39.63260777		Yes	Yes	5		ng/L	0.15	0.15	ng/cm^2	
Experiment B	B3	OCL21	OCL21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	74.49731082		Yes	Yes	5		ng/L	0.28	0.28	ng/cm^2	
Experiment B	B3	OCL21	OCL21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	57.38019961		Yes	Yes	5		ng/L	0.21	0.21	ng/cm^2	
Experiment B	B3	OCL21	OCL21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	1.1	B	Yes	Yes	1.0	3.0	ng/g	1.1	-1	ng/g	
Experiment B	B3	OCL21	OCL21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	3.1		Yes	Yes	1.0	2.9	ng/g	3.1	0.97	ng/g	
Experiment B	B3	OCL21	OCL21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	4.1		Yes	Yes	0.9	2.8	ng/g	4.1	2	ng/g	
Experiment B	B3	OCL21	OCL21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	15.1		Yes	Yes	0.20	0.68	ng/g	15	4.1	ng/g	
Experiment B	B3	OCL21	OCL21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	17.2		Yes	Yes	0.23	0.78	ng/g	17	6.2	ng/g	
Experiment B	B3	OCL21	OCL21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	11.0		Yes	Yes	0.22	0.72	ng/g	11	0.033	ng/g	
Experiment B	B3	OCL28	OCL28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	7.066740692		Yes	Yes	0.196737		ng/L	0.037	0.037	ng/cm^2	
Experiment B	B3	OCL28	OCL28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	5.677032954		Yes	Yes	0.197785		ng/L	0.03	0.029	ng/cm^2	
Experiment B	B3	OCL28	OCL28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	3.204505846		Yes	Yes	0.198466		ng/L	0.017	0.016	ng/cm^2	
Experiment B	B3	OCL28	OCL28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	6.206788175		Yes	Yes	0.199659		ng/L	0.033	0.032	ng/cm^2	
Experiment B	B3	OCL28	OCL28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	36.61007965		Yes	Yes	10		ng/L	0.14	0.13	ng/cm^2	
Experiment B	B3	OCL28	OCL28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	51.49159187		Yes	Yes	10		ng/L	0.19	0.19	ng/cm^2	
Experiment B	B3	OCL28	OCL28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	23.40640656		Yes	Yes	10		ng/L	0.087	0.086	ng/cm^2	
Experiment B	B3	OCL28	OCL28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	48.98568725		Yes	Yes	10		ng/L	0.18	0.18	ng/cm^2	
Experiment B	B3	OCL28	OCL28-1A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	3.9	H	Yes	Yes	1.0	2.9	ng/g	3.9	1.8	ng/g	
Experiment B	B3	OCL28	OCL28-1B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	1.4	H, B	Yes	Yes	1.0	3.1	ng/g	1.4	-0.73	ng/g	
Experiment B	B3	OCL28	OCL28-2A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	MeHg	1.0	H, U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B3	OCL28	OCL28-1A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	20.7	H	Yes	Yes	0.20	0.65	ng/g	21	9.7	ng/g	
Experiment B	B3	OCL28	OCL28-1B-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	11.8	H	Yes	Yes	0.23	0.77	ng/g	12	0.83	ng/g	
Experiment B	B3	OCL28	OCL28-2A-TIS	28	10/12/2012	11/9/2012	N	TIS	*M. nasuta*	THg	23.5	H	Yes	Yes	0.19	0.65	ng/g	24	13	ng/g	
Experiment B	B3	OCL35	OCL35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	3.137865457		Yes	Yes	0.200229		ng/L	0.017	0.016	ng/cm^2	
Experiment B	B3	OCL35	OCL35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	5.664707531		Yes	Yes	0.198848		ng/L	0.03	0.029	ng/cm^2	
Experiment B	B3	OCL35	OCL35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	2.511977739		Yes	Yes	0.19651		ng/L	0.013	0.012	ng/cm^2	
Experiment B	B3	OCL35	OCL35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	2.443936383		Yes	Yes	0.197468		ng/L	0.013	0.012	ng/cm^2	
Experiment B	B3	OCL35	OCL35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	59.56608238		Yes	Yes	10		ng/L	0.22	0.22	ng/cm^2	
Experiment B	B3	OCL35	OCL35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	21.33569194		Yes	Yes	10		ng/L	0.079	0.078	ng/cm^2	
Experiment B	B3	OCL35	OCL35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	25.80595445		Yes	Yes	10		ng/L	0.096	0.095	ng/cm^2	
Experiment B	B3	OCL35	OCL35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	16.63746891		Yes	Yes	10		ng/L	0.062	0.061	ng/cm^2	
Experiment B	B3	OCL35	OCL35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	MeHg	1.04	U	No	Yes	1.04	2.60	ng/L	1.1	0.086	ng/L	
Experiment B	B3	OCL35	OCL35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	THg	563		Yes	Yes	3.76	10.0	ng/L	610	500	ng/L	
Experiment B	B3	OCL35	OCL35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	%TS	60.60		Yes	Yes	0.06	0.21	%	61	61	%	
Experiment B	B3	OCL35	OCL35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	AVS	0.12		Yes	Yes			µmol/g	0.12	0.12	µmol/g	
Experiment B	B3	OCL35	OCL35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	MeHg	3.22		Yes	Yes	0.069	0.217	ng/g	3.2	3.2	ng/g	
Experiment B	B3	OCL35	OCL35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	THg	266		Yes	Yes	4.86	16.2	ng/g	270	270	ng/g	
Experiment B	B3	OCL35	OCL35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	TOC	2.15		Yes	Yes		0.2	%	2.2	2.2	%	
Experiment B	B3	OCL35	OCL35-1A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	4.8		Yes	Yes	1.0	3.1	ng/g	4.8	2.7	ng/g	
Experiment B	B3	OCL35	OCL35-1B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	1.3	B	Yes	Yes	1.0	3.0	ng/g	1.3	-0.83	ng/g	
Experiment B	B3	OCL35	OCL35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	3.1		Yes	Yes	1.0	3.0	ng/g	3.1	0.97	ng/g	
Experiment B	B3	OCL35	OCL35-2B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	3.0	B	Yes	Yes	1.0	3.0	ng/g	3	0.87	ng/g	
Experiment B	B3	OCL35	OCL35-1A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	15.5		Yes	Yes	0.22	0.72	ng/g	16	4.5	ng/g	
Experiment B	B3	OCL35	OCL35-1B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	14.5		Yes	Yes	0.23	0.77	ng/g	15	3.5	ng/g	
Experiment B	B3	OCL35	OCL35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	14.4		Yes	Yes	0.20	0.65	ng/g	14	3.4	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B3	OCL35	OCL35-2B-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	20.2		Yes	Yes	0.21	0.69	ng/g	20	9.2	ng/g	
Experiment B	B4	OCA00	OCA00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.188876856	U	No	Yes	0.196132		ng/L	0.001	0.00013	ng/cm^2	
Experiment B	B4	OCA00	OCA00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.217129062		Yes	Yes	0.199627		ng/L	0.0012	0.00028	ng/cm^2	
Experiment B	B4	OCA00	OCA00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	MeHg	0.085296577	U	No	Yes	0.198024		ng/L	0.00045	-0.00042	ng/cm^2	
Experiment B	B4	OCA00	OCA00-1A-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.176208828	U	No	Yes	1		ng/L	0.00065	-0.000067	ng/cm^2	
Experiment B	B4	OCA00	OCA00-1B-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.100117509	U	No	Yes	1		ng/L	0.00037	-0.00035	ng/cm^2	
Experiment B	B4	OCA00	OCA00-1C-DGT	0	NA	10/12/2012	N	DGT	NA	THg	0.306594768	U	No	Yes	1		ng/L	0.0011	0.00042	ng/cm^2	
Experiment B	B4	OCA00	OCA00-1-POR	0	NA	10/12/2012	N	POR	NA	THg	166	J	Yes	No	2.00	5.33	ng/L	180	72	ng/L	Value not retained; high blank concentration
Experiment B	B4	OCA00	OCA00-1-SED	0	NA	10/12/2012	N	SED	NA	%LOI	6.781767727		Yes	Yes			%	6.8	6.8	%	
Experiment B	B4	OCA00	OCA00-1-SED	0	NA	10/12/2012	N	SED	NA	%TS	63.88		Yes	Yes	0.06	0.19	%	64	64	%	
Experiment B	B4	OCA00	OCA00-1-SED	0	NA	10/12/2012	N	SED	NA	AVS	0.06		Yes	Yes			µmol/g	0.064	0.064	µmol/g	
Experiment B	B4	OCA00	OCA00-1-SED	0	NA	10/12/2012	N	SED	NA	MeHg	1.75		Yes	Yes	0.065	0.204	ng/g	1.8	1.8	ng/g	
Experiment B	B4	OCA00	OCA00-1-SED	0	NA	10/12/2012	N	SED	NA	THg	167		Yes	Yes	9.39	31.3	ng/g	170	170	ng/g	
Experiment B	B4	OCA00	OCA00-1-SED	0	NA	10/12/2012	N	SED	NA	TOC	3.75		Yes	Yes		0.2	%	3.8	3.8	%	
Experiment B	B4	OCA00	OCA00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.6	B	Yes	Yes	1.0	3.1	ng/g	1.6	-0.53	ng/g	
Experiment B	B4	OCA00	OCA00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA00	OCA00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	MeHg	3.8		Yes	Yes	1.0	3.1	ng/g	3.8	1.7	ng/g	
Experiment B	B4	OCA00	OCA00-1A-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.2		Yes	Yes	0.55	1.65	ng/g	11	0.23	ng/g	
Experiment B	B4	OCA00	OCA00-1B-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	10.0		Yes	Yes	0.54	1.60	ng/g	10	-0.97	ng/g	
Experiment B	B4	OCA00	OCA00-1C-TIS	0	NA	10/12/2012	N	TIS	*M. nasuta*	THg	11.7		Yes	Yes	0.55	1.64	ng/g	12	0.73	ng/g	
Experiment B	B4	OCA03	OCA03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.196290675		Yes	Yes	0.197454		ng/L	0.001	0.00017	ng/cm^2	
Experiment B	B4	OCA03	OCA03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.230162069		Yes	Yes	0.198791		ng/L	0.0012	0.00035	ng/cm^2	
Experiment B	B4	OCA03	OCA03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.134615944	U	No	Yes	0.197665		ng/L	0.00071	-0.00015	ng/cm^2	
Experiment B	B4	OCA03	OCA03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	MeHg	0.140269916	U	No	Yes	0.197937		ng/L	0.00074	-0.00012	ng/cm^2	
Experiment B	B4	OCA03	OCA03-1A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	0.441388024	U	No	Yes	1		ng/L	0.0016	0.00092	ng/cm^2	
Experiment B	B4	OCA03	OCA03-1B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	0.355025881	U	No	Yes	1		ng/L	0.0013	0.0006	ng/cm^2	
Experiment B	B4	OCA03	OCA03-2A-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	0.673536994	U	No	Yes	1		ng/L	0.0025	0.0018	ng/cm^2	
Experiment B	B4	OCA03	OCA03-2B-DGT	3	10/12/2012	10/15/2012	N	DGT	NA	THg	0.491926072	U	No	Yes	1		ng/L	0.0018	0.0011	ng/cm^2	
Experiment B	B4	OCA03	OCA03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA03	OCA03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA03	OCA03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.2	B	Yes	Yes	1.0	3.0	ng/g	1.2	-0.93	ng/g	
Experiment B	B4	OCA03	OCA03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA03	OCA03-1A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	10.7		Yes	Yes	0.53	1.59	ng/g	11	-0.27	ng/g	
Experiment B	B4	OCA03	OCA03-1B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	10.9		Yes	Yes	0.53	1.58	ng/g	11	-0.067	ng/g	
Experiment B	B4	OCA03	OCA03-2A-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	18.3		Yes	Yes	0.53	1.59	ng/g	18	7.3	ng/g	
Experiment B	B4	OCA03	OCA03-2B-TIS	3	10/12/2012	10/15/2012	N	TIS	*M. nasuta*	THg	13.3		Yes	Yes	0.52	1.56	ng/g	13	2.3	ng/g	
Experiment B	B4	OCA07	OCA07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	0.24858345		Yes	Yes	0.200086		ng/L	0.0013	0.00045	ng/cm^2	
Experiment B	B4	OCA07	OCA07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	0.347998227		Yes	Yes	0.198257		ng/L	0.0018	0.00098	ng/cm^2	
Experiment B	B4	OCA07	OCA07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	0.162245573	U	No	Yes	0.19729		ng/L	0.00086	-0.0000081	ng/cm^2	
Experiment B	B4	OCA07	OCA07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	MeHg	0.255311595		Yes	Yes	0.197806		ng/L	0.0014	0.00049	ng/cm^2	
Experiment B	B4	OCA07	OCA07-1A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	0.554929061	U	No	Yes	1.25		ng/L	0.0021	0.0013	ng/cm^2	
Experiment B	B4	OCA07	OCA07-1B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	7.330357369		Yes	Yes	1.25		ng/L	0.027	0.026	ng/cm^2	
Experiment B	B4	OCA07	OCA07-2A-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	0.79559702	U	No	Yes	1.25		ng/L	0.0029	0.0022	ng/cm^2	
Experiment B	B4	OCA07	OCA07-2B-DGT	7	10/12/2012	10/19/2012	N	DGT	NA	THg	9.689603815		Yes	Yes	1.25		ng/L	0.036	0.035	ng/cm^2	
Experiment B	B4	OCA07	OCA07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA07	OCA07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA07	OCA07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA07	OCA07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.1	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA07	OCA07-1A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	6.27		Yes	Yes	0.55	1.64	ng/g	6.3	-4.7	ng/g	
Experiment B	B4	OCA07	OCA07-1B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	10.9		Yes	Yes	0.52	1.55	ng/g	11	-0.067	ng/g	
Experiment B	B4	OCA07	OCA07-2A-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	12.0		Yes	Yes	0.56	1.67	ng/g	12	1	ng/g	
Experiment B	B4	OCA07	OCA07-2B-TIS	7	10/12/2012	10/19/2012	N	TIS	*M. nasuta*	THg	5.61		Yes	Yes	0.56	1.66	ng/g	5.6	-5.4	ng/g	
Experiment B	B4	OCA14	OCA14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	0.281484113		Yes	Yes	0.198567		ng/L	0.0015	0.00062	ng/cm^2	
Experiment B	B4	OCA14	OCA14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	0.181454516	U	No	Yes	0.198745		ng/L	0.00096	0.000094	ng/cm^2	
Experiment B	B4	OCA14	OCA14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	0.320860283		Yes	Yes	0.199845		ng/L	0.0017	0.00083	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	B4	OCA14	OCA14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	MeHg	0.222281819		Yes	Yes	0.199082		ng/L	0.0012	0.00031	ng/cm^2	
Experiment B	B4	OCA14	OCA14-1A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	1.984693144		Yes	Yes	1.25		ng/L	0.0074	0.0066	ng/cm^2	
Experiment B	B4	OCA14	OCA14-1B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	1.246561085		Yes	Yes	1.25		ng/L	0.0046	0.0039	ng/cm^2	
Experiment B	B4	OCA14	OCA14-2A-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	2.128444753		Yes	Yes	1.25		ng/L	0.0079	0.0072	ng/cm^2	
Experiment B	B4	OCA14	OCA14-2B-DGT	14	10/12/2012	10/26/2012	N	DGT	NA	THg	2.654294764		Yes	Yes	1.25		ng/L	0.0098	0.0091	ng/cm^2	
Experiment B	B4	OCA14	OCA14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA14	OCA14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	MeHg	1.5	B	Yes	Yes	1.0	3.1	ng/g	1.5	-0.63	ng/g	
Experiment B	B4	OCA14	OCA14-1B-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	6.37		Yes	Yes	0.54	1.61	ng/g	6.4	-4.6	ng/g	
Experiment B	B4	OCA14	OCA14-2A-TIS	14	10/12/2012	10/26/2012	N	TIS	*M. nasuta*	THg	0.93		Yes	Yes	0.06	0.17	ng/g	0.93	-10	ng/g	
Experiment B	B4	OCA21	OCA21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	0.234107402		Yes	Yes	0.197508		ng/L	0.0012	0.00037	ng/cm^2	
Experiment B	B4	OCA21	OCA21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	0.253434025		Yes	Yes	0.19786		ng/L	0.0013	0.00048	ng/cm^2	
Experiment B	B4	OCA21	OCA21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	0.258021213		Yes	Yes	0.199979		ng/L	0.0014	0.0005	ng/cm^2	
Experiment B	B4	OCA21	OCA21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	MeHg	0.29253239		Yes	Yes	0.197047		ng/L	0.0016	0.00068	ng/cm^2	
Experiment B	B4	OCA21	OCA21-1A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	6.242433382		Yes	Yes	1.25		ng/L	0.023	0.022	ng/cm^2	
Experiment B	B4	OCA21	OCA21-1B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	92.60937443		Yes	Yes	6.25		ng/L	0.34	0.34	ng/cm^2	
Experiment B	B4	OCA21	OCA21-2A-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	5.059125542		Yes	Yes	1.25		ng/L	0.019	0.018	ng/cm^2	
Experiment B	B4	OCA21	OCA21-2B-DGT	21	10/12/2012	11/2/2012	N	DGT	NA	THg	7.856402643		Yes	Yes	1.25		ng/L	0.029	0.028	ng/cm^2	
Experiment B	B4	OCA21	OCA21-1A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	1.1	B	Yes	Yes	1.0	3.0	ng/g	1.1	-1	ng/g	
Experiment B	B4	OCA21	OCA21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	3.0	B	Yes	Yes	1.0	3.1	ng/g	3	0.87	ng/g	
Experiment B	B4	OCA21	OCA21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	3.0	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA21	OCA21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	MeHg	1.3	B	Yes	Yes	0.9	2.8	ng/g	1.3	-0.83	ng/g	
Experiment B	B4	OCA21	OCA21-1A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	10.2		Yes	Yes	0.23	0.76	ng/g	10	-0.77	ng/g	
Experiment B	B4	OCA21	OCA21-1B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	12.0		Yes	Yes	0.20	0.66	ng/g	12	1	ng/g	
Experiment B	B4	OCA21	OCA21-2A-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	6.87		Yes	Yes	0.19	0.64	ng/g	6.9	-4.1	ng/g	
Experiment B	B4	OCA21	OCA21-2B-TIS	21	10/12/2012	11/2/2012	N	TIS	*M. nasuta*	THg	12.8		Yes	Yes	0.21	0.70	ng/g	13	1.8	ng/g	
Experiment B	B4	OCA28	OCA28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	0.287049743		Yes	Yes	0.198406		ng/L	0.0015	0.00065	ng/cm^2	
Experiment B	B4	OCA28	OCA28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	0.240683436		Yes	Yes	0.196355		ng/L	0.0013	0.00041	ng/cm^2	
Experiment B	B4	OCA28	OCA28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	0.247473143		Yes	Yes	0.197707		ng/L	0.0013	0.00044	ng/cm^2	
Experiment B	B4	OCA28	OCA28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	MeHg	0.536655632		Yes	Yes	0.198433		ng/L	0.0028	0.002	ng/cm^2	
Experiment B	B4	OCA28	OCA28-1A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	7.568585375		Yes	Yes	2.5		ng/L	0.028	0.027	ng/cm^2	
Experiment B	B4	OCA28	OCA28-1B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	4.39666332		Yes	Yes	2.5		ng/L	0.016	0.016	ng/cm^2	
Experiment B	B4	OCA28	OCA28-2A-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	4.240674195		Yes	Yes	2.5		ng/L	0.016	0.015	ng/cm^2	
Experiment B	B4	OCA28	OCA28-2B-DGT	28	10/12/2012	11/9/2012	N	DGT	NA	THg	8.549177359		Yes	Yes	2.5		ng/L	0.032	0.031	ng/cm^2	
Experiment B	B4	OCA28	OCA28-2A-TIS	28	10/15/2012	11/13/2012	N	TIS	*M. nasuta*	MeHg	3.0	H	Yes	Yes	1.0	2.9	ng/g	3	0.87	ng/g	
Experiment B	B4	OCA28	OCA28-1A-TIS	28	10/15/2012	11/13/2012	N	TIS	*M. nasuta*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	-1.1	ng/g	
Experiment B	B4	OCA28	OCA28-1B-TIS	28	10/15/2012	11/13/2012	N	TIS	*M. nasuta*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-1.2	ng/g	
Experiment B	B4	OCA28	OCA28-2A-TIS	28	10/15/2012	11/13/2012	N	TIS	*M. nasuta*	THg	17.9	H	Yes	Yes	0.20	0.67	ng/g	18	6.9	ng/g	
Experiment B	B4	OCA28	OCA28-1A-TIS	28	10/15/2012	11/13/2012	N	TIS	*M. nasuta*	THg	13.1		Yes	Yes	0.22	0.74	ng/g	13	2.1	ng/g	
Experiment B	B4	OCA28	OCA28-1B-TIS	28	10/15/2012	11/13/2012	N	TIS	*M. nasuta*	THg	7.53		Yes	Yes	0.21	0.71	ng/g	7.5	-3.4	ng/g	
Experiment B	B4	OCA35	OCA35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	0.331678261		Yes	Yes	0.197814		ng/L	0.0018	0.00089	ng/cm^2	
Experiment B	B4	OCA35	OCA35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	0.224030813		Yes	Yes	0.197286		ng/L	0.0012	0.00032	ng/cm^2	
Experiment B	B4	OCA35	OCA35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	0.270297722		Yes	Yes	0.19843		ng/L	0.0014	0.00056	ng/cm^2	
Experiment B	B4	OCA35	OCA35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	MeHg	0.200012666		Yes	Yes	0.198129		ng/L	0.0011	0.00019	ng/cm^2	
Experiment B	B4	OCA35	OCA35-1A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	1.047289342	U	No	Yes	1.25		ng/L	0.0039	0.0032	ng/cm^2	
Experiment B	B4	OCA35	OCA35-1B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	1.432948308		Yes	Yes	1.25		ng/L	0.0053	0.0046	ng/cm^2	
Experiment B	B4	OCA35	OCA35-2A-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	6.352568263		Yes	Yes	2.5		ng/L	0.024	0.023	ng/cm^2	
Experiment B	B4	OCA35	OCA35-2B-DGT	35	10/12/2012	11/16/2012	N	DGT	NA	THg	6.512747304		Yes	Yes	1.25		ng/L	0.024	0.023	ng/cm^2	
Experiment B	B4	OCA35	OCA35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	MeHg	0.994	U	No	Yes	0.994	2.48	ng/L	1.1	0.036	ng/L	
Experiment B	B4	OCA35	OCA35-1-POR	35	10/12/2012	11/16/2012	N	POR	NA	THg	63.6		Yes	Yes	3.29	8.77	ng/L	69	-39	ng/L	
Experiment B	B4	OCA35	OCA35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	%TS	58.44		Yes	Yes	0.06	0.21	%	58	58	%	
Experiment B	B4	OCA35	OCA35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	AVS	0.01		Yes	Yes			µmol/g	0.0085	0.0085	µmol/g	
Experiment B	B4	OCA35	OCA35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	MeHg	1.37		Yes	Yes	0.070	0.218	ng/g	1.4	1.4	ng/g	
Experiment B	B4	OCA35	OCA35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	THg	153		Yes	Yes	4.96	16.5	ng/g	150	150	ng/g	
Experiment B	B4	OCA35	OCA35-1-SED	35	10/12/2012	11/16/2012	N	SED	NA	TOC	3.95		Yes	Yes		0.2	%	4	4	%	
Experiment B	B4	OCA35	OCA35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	MeHg	2.2	B	Yes	Yes	1.0	3.0	ng/g	2.2	0.067	ng/g	
Experiment B	B4	OCA35	OCA35-2A-TIS	35	10/12/2012	11/16/2012	N	TIS	*M. nasuta*	THg	12.2		Yes	Yes	0.21	0.71	ng/g	12	1.2	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment B	NA	NA	OCB00-1-POR	0	NA	10/12/2012	B	POR	NA	THg	24800	J	Yes	No	2.08	5.56	ng/L	27000	27000	ng/L	Value not retained; high blank concentration
Experiment B	NA	NA	OCB35-1-POR	35	NA	11/16/2012	B	POR	NA	MeHg	0.961	U	No	Yes	0.961	2.40	ng/L	1	0	ng/L	
Experiment B	NA	NA	OCB35-1-POR	35	NA	11/16/2012	B	POR	NA	THg	99.6		Yes	Yes	2.98	7.94	ng/L	110	0	ng/L	
Experiment C	C1	HGH00	HGH00-1A-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.157790249	U	No	Yes	0.198142	0	ng/L	0.0014	-0.0005	ng/cm^2	
Experiment C	C1	HGH00	HGH00-1B-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.175959884	U	No	Yes	0.19653	0	ng/L	0.0015	-0.00034	ng/cm^2	
Experiment C	C1	HGH00	HGH00-1C-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.310982337		Yes	Yes	0.196034	0	ng/L	0.0027	0.00083	ng/cm^2	
Experiment C	C1	HGH00	HGH00-1A-DGT	0	NA	12/8/2012	N	DGT	NA	THg	1.960063408	U	No	Yes	2.5	0	ng/L	0.012	-0.0081	ng/cm^2	
Experiment C	C1	HGH00	HGH00-1B-DGT	0	NA	12/8/2012	N	DGT	NA	THg	4.264083688		Yes	Yes	2.5	0	ng/L	0.026	0.0059	ng/cm^2	
Experiment C	C1	HGH00	HGH00-1C-DGT	0	NA	12/8/2012	N	DGT	NA	THg	3.642260241		Yes	Yes	2.5	0	ng/L	0.022	0.0021	ng/cm^2	
Experiment C	C1	HGH00	HGH00-1-POR	0	NA	12/8/2012	N	POR	NA	MeHg	0.954	U	No	Yes	0.954	2.38	ng/L	0.97	-0.057	ng/L	
Experiment C	C1	HGH00	HGH00-1-POR	0	NA	12/8/2012	N	POR	NA	Sulfate	56		Yes	Yes			mg/L	56	56	mg/L	
Experiment C	C1	HGH00	HGH00-1-POR	0	NA	12/8/2012	N	POR	NA	THg	42.2		Yes	Yes	3.50	9.32	ng/L	43	29	ng/L	
Experiment C	C1	HGH00	HGH00-1-SED	0	NA	12/8/2012	N	SED	NA	%TS	17.13		Yes	Yes	0.08	0.25	%	17	17	%	
Experiment C	C1	HGH00	HGH00-1-SED	0	NA	12/8/2012	N	SED	NA	AVS	3.636534202		Yes	Yes			µmol/g	3.6	3.6	µmol/g	
Experiment C	C1	HGH00	HGH00-1-SED	0	NA	12/8/2012	N	SED	NA	MeHg	8.65		Yes	Yes	0.047	0.146	ng/g	8.7	8.7	ng/g	
Experiment C	C1	HGH00	HGH00-1-SED	0	NA	12/8/2012	N	SED	NA	THg	7670		Yes	Yes	8.58	28.6	ng/g	7700	7700	ng/g	
Experiment C	C1	HGH00	HGH00-1-SED	0	NA	12/8/2012	N	SED	NA	TOC	14.4		Yes	Yes		0.2	%	14	14	%	
Experiment C	C1	HGH00	HGH00-1A-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-0.033	ng/g	
Experiment C	C1	HGH00	HGH00-1B-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.7	ng/g	0.9	-0.033	ng/g	
Experiment C	C1	HGH00	HGH00-1C-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	0.067	ng/g	
Experiment C	C1	HGH00	HGH00-1A-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	2.75		Yes	Yes	0.37	0.92	ng/g	2.8	0.2	ng/g	
Experiment C	C1	HGH00	HGH00-1B-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	2.95		Yes	Yes	0.37	0.91	ng/g	3	0.4	ng/g	
Experiment C	C1	HGH00	HGH00-1C-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	1.96		Yes	Yes	0.38	0.95	ng/g	2	-0.59	ng/g	
Experiment C	C1	HGH03	HGH03-1A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	2.301761278		Yes	Yes	0.196133	0	ng/L	0.02	0.018	ng/cm^2	
Experiment C	C1	HGH03	HGH03-1B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	1.771525979		Yes	Yes	0.199044	0	ng/L	0.015	0.013	ng/cm^2	
Experiment C	C1	HGH03	HGH03-2A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	1.604632853		Yes	Yes	0.195841	0	ng/L	0.014	0.012	ng/cm^2	
Experiment C	C1	HGH03	HGH03-2B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	1.806712307		Yes	Yes	0.196924	0	ng/L	0.016	0.014	ng/cm^2	
Experiment C	C1	HGH03	HGH03-1A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	23.27595944		Yes	Yes	5	0	ng/L	0.14	0.12	ng/cm^2	
Experiment C	C1	HGH03	HGH03-1B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	55.97111973		Yes	Yes	5	0	ng/L	0.34	0.32	ng/cm^2	
Experiment C	C1	HGH03	HGH03-2A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	45.45601838		Yes	Yes	5	0	ng/L	0.28	0.26	ng/cm^2	
Experiment C	C1	HGH03	HGH03-2B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	44.23978952		Yes	Yes	5	0	ng/L	0.27	0.25	ng/cm^2	
Experiment C	C1	HGH03	HGH03-1-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	MeHg	2.2	B	Yes	Yes	0.9	2.8	ng/g	2.2	1.3	ng/g	
Experiment C	C1	HGH03	HGH03-2-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	MeHg	1.8	B	Yes	Yes	0.9	2.8	ng/g	1.8	0.87	ng/g	
Experiment C	C1	HGH03	HGH03-1-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	THg	47.0		Yes	Yes	0.37	0.92	ng/g	47	44	ng/g	
Experiment C	C1	HGH03	HGH03-2-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	THg	41.8		Yes	Yes	0.37	0.93	ng/g	42	39	ng/g	
Experiment C	C1	HGH10	HGH10-1A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	6.05389811		Yes	Yes	0.195824	0	ng/L	0.052	0.051	ng/cm^2	
Experiment C	C1	HGH10	HGH10-1B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	4.528338675		Yes	Yes	0.199311	0	ng/L	0.039	0.037	ng/cm^2	
Experiment C	C1	HGH10	HGH10-2A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	5.988671339		Yes	Yes	0.196221	0	ng/L	0.052	0.05	ng/cm^2	
Experiment C	C1	HGH10	HGH10-2B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	8.485524886		Yes	Yes	0.198631	0	ng/L	0.074	0.072	ng/cm^2	
Experiment C	C1	HGH10	HGH10-1A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	83.55781231		Yes	Yes	12.5	0	ng/L	0.51	0.49	ng/cm^2	
Experiment C	C1	HGH10	HGH10-1B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	72.00632601		Yes	Yes	12.5	0	ng/L	0.44	0.42	ng/cm^2	
Experiment C	C1	HGH10	HGH10-2A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	105.4258948		Yes	Yes	12.5	0	ng/L	0.64	0.62	ng/cm^2	
Experiment C	C1	HGH10	HGH10-2B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	109.6184594		Yes	Yes	12.5	0	ng/L	0.66	0.64	ng/cm^2	
Experiment C	C1	HGH10	HGH10-1-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	MeHg	2.00	B	Yes	Yes	0.97	2.90	ng/g	2	1.1	ng/g	
Experiment C	C1	HGH10	HGH10-2-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	MeHg	0.98	B	Yes	Yes	0.91	2.74	ng/g	0.98	0.047	ng/g	
Experiment C	C1	HGH10	HGH10-1-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	THg	52.1		Yes	Yes	0.41	1.37	ng/g	52	50	ng/g	
Experiment C	C1	HGH10	HGH10-2-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	THg	29.2		Yes	Yes	0.37	0.91	ng/g	29	27	ng/g	
Experiment C	C1	HGH20	HGH20-1A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	8.61032226		Yes	Yes	0.196049	0	ng/L	0.075	0.073	ng/cm^2	
Experiment C	C1	HGH20	HGH20-1B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	10.4844165		Yes	Yes	0.196978	0	ng/L	0.091	0.089	ng/cm^2	
Experiment C	C1	HGH20	HGH20-2A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	14.45795818		Yes	Yes	0.200808	0	ng/L	0.13	0.12	ng/cm^2	
Experiment C	C1	HGH20	HGH20-2B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	10.65097109		Yes	Yes	0.197268	0	ng/L	0.092	0.09	ng/cm^2	
Experiment C	C1	HGH20	HGH20-1A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	70.06887927		Yes	Yes	25	0	ng/L	0.42	0.4	ng/cm^2	
Experiment C	C1	HGH20	HGH20-1B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	84.76039197		Yes	Yes	25	0	ng/L	0.51	0.49	ng/cm^2	
Experiment C	C1	HGH20	HGH20-2A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	47.68195592		Yes	Yes	12.5	0	ng/L	0.29	0.27	ng/cm^2	
Experiment C	C1	HGH20	HGH20-2B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	79.81252729		Yes	Yes	25	0	ng/L	0.48	0.46	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment C	C1	HGH20	HGH20-1-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	MeHg	0.98	U	No	Yes	0.98	2.95	ng/g	0.98	0.047	ng/g	
Experiment C	C1	HGH20	HGH20-2-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	MeHg	1.06	B	Yes	Yes	0.98	2.94	ng/g	1.1	0.13	ng/g	
Experiment C	C1	HGH20	HGH20-1-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	THg	38.1		Yes	Yes	0.39	0.98	ng/g	38	36	ng/g	
Experiment C	C1	HGH20	HGH20-2-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	THg	53.3		Yes	Yes	0.39	0.98	ng/g	53	51	ng/g	
Experiment C	C1	HGH34	HGH34-1A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	26.55277241		Yes	Yes	0.196286	0	ng/L	0.23	0.23	ng/cm^2	
Experiment C	C1	HGH34	HGH34-1B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	27.67075768		Yes	Yes	0.19925	0	ng/L	0.24	0.24	ng/cm^2	
Experiment C	C1	HGH34	HGH34-2A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	22.99066237		Yes	Yes	0.199001	0	ng/L	0.2	0.2	ng/cm^2	
Experiment C	C1	HGH34	HGH34-2B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	27.95561248		Yes	Yes	0.198017	0	ng/L	0.24	0.24	ng/cm^2	
Experiment C	C1	HGH34	HGH34-1A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	113.3375301		Yes	Yes	25	0	ng/L	0.69	0.67	ng/cm^2	
Experiment C	C1	HGH34	HGH34-1B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	71.65986486		Yes	Yes	25	0	ng/L	0.43	0.41	ng/cm^2	
Experiment C	C1	HGH34	HGH34-2A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	123.0897913		Yes	Yes	25	0	ng/L	0.75	0.73	ng/cm^2	
Experiment C	C1	HGH34	HGH34-2B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	85.23666771		Yes	Yes	25	0	ng/L	0.52	0.5	ng/cm^2	
Experiment C	C1	HGH34	HGH34-1-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	MeHg	1.50	B	Yes	Yes	0.94	2.82	ng/g	1.5	0.57	ng/g	
Experiment C	C1	HGH34	HGH34-2-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	MeHg	1.25	B	Yes	Yes	0.91	2.73	ng/g	1.3	0.32	ng/g	
Experiment C	C1	HGH34	HGH34-1-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	THg	67.4		Yes	Yes	0.43	1.44	ng/g	67	65	ng/g	
Experiment C	C1	HGH34	HGH34-2-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	THg	83.7		Yes	Yes	0.29	0.97	ng/g	84	81	ng/g	
Experiment C	C1	HGH44	HGH44-1A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	25.40273466		Yes	Yes	0.197805	0	ng/L	0.22	0.22	ng/cm^2	
Experiment C	C1	HGH44	HGH44-1B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	22.86245965		Yes	Yes	0.196475	0	ng/L	0.2	0.2	ng/cm^2	
Experiment C	C1	HGH44	HGH44-2A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	33.18874653		Yes	Yes	0.200122	0	ng/L	0.29	0.29	ng/cm^2	
Experiment C	C1	HGH44	HGH44-2B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	30.50036189		Yes	Yes	0.198092	0	ng/L	0.26	0.26	ng/cm^2	
Experiment C	C1	HGH44	HGH44-1A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	74.56588799		Yes	Yes	25	0	ng/L	0.45	0.43	ng/cm^2	
Experiment C	C1	HGH44	HGH44-1B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	151.1702599		Yes	Yes	25	0	ng/L	0.92	0.9	ng/cm^2	
Experiment C	C1	HGH44	HGH44-2A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	113.4044425		Yes	Yes	25	0	ng/L	0.69	0.67	ng/cm^2	
Experiment C	C1	HGH44	HGH44-2B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	95.18016923		Yes	Yes	25	0	ng/L	0.58	0.56	ng/cm^2	
Experiment C	C1	HGH44	HGH44-1-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	MeHg	1.27	B	Yes	Yes	0.97	2.92	ng/g	1.3	0.34	ng/g	
Experiment C	C1	HGH44	HGH44-2-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	MeHg	2.25	B	Yes	Yes	1.03	3.08	ng/g	2.3	1.3	ng/g	
Experiment C	C1	HGH44	HGH44-1-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	THg	79.4		Yes	Yes	0.31	1.05	ng/g	79	77	ng/g	
Experiment C	C1	HGH44	HGH44-2-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	THg	80.3		Yes	Yes	0.31	1.02	ng/g	80	78	ng/g	
Experiment C	C1	HGH54	HGH54-1A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	20.32074153		Yes	Yes	0.196466	0	ng/L	0.18	0.17	ng/cm^2	
Experiment C	C1	HGH54	HGH54-1B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	26.15898989		Yes	Yes	0.197954	0	ng/L	0.23	0.22	ng/cm^2	
Experiment C	C1	HGH54	HGH54-2A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	34.13010339		Yes	Yes	0.199183	0	ng/L	0.3	0.29	ng/cm^2	
Experiment C	C1	HGH54	HGH54-2B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	22.10383864		Yes	Yes	0.198705	0	ng/L	0.19	0.19	ng/cm^2	
Experiment C	C1	HGH54	HGH54-1A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	91.57600838		Yes	Yes	25	0	ng/L	0.56	0.54	ng/cm^2	
Experiment C	C1	HGH54	HGH54-1B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	70.01348006		Yes	Yes	25	0	ng/L	0.42	0.4	ng/cm^2	
Experiment C	C1	HGH54	HGH54-2A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	54.54007566		Yes	Yes	25	0	ng/L	0.33	0.31	ng/cm^2	
Experiment C	C1	HGH54	HGH54-2B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	106.0339442		Yes	Yes	25	0	ng/L	0.64	0.62	ng/cm^2	
Experiment C	C1	HGH54	HGH54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	MeHg	1.02	U	No	Yes	1.02	2.54	ng/L	1	-0.0096	ng/L	
Experiment C	C1	HGH54	HGH54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	Sulfate	17		Yes	Yes			mg/L	17	17	mg/L	
Experiment C	C1	HGH54	HGH54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	THg	125		Yes	Yes	3.47	9.25	ng/L	130	79	ng/L	
Experiment C	C1	HGH54	HGH54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	%TS	17.49		Yes	Yes	0.22	0.72	%	17	17	%	
Experiment C	C1	HGH54	HGH54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	AVS	4.123378052		Yes	Yes			µmol/g	4.1	4.1	µmol/g	
Experiment C	C1	HGH54	HGH54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	MeHg	1.93		Yes	Yes	0.049	0.154	ng/g	1.9	1.9	ng/g	
Experiment C	C1	HGH54	HGH54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	THg	9550		Yes	Yes	16.4	54.7	ng/g	9600	9600	ng/g	
Experiment C	C1	HGH54	HGH54-1-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	MeHg	1.19	B	Yes	Yes	0.92	2.75	ng/g	1.2	0.26	ng/g	
Experiment C	C1	HGH54	HGH54-2-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	MeHg	1.41	B	Yes	Yes	1.04	3.13	ng/g	1.4	0.48	ng/g	
Experiment C	C1	HGH54	HGH54-1-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	THg	66.1		Yes	Yes	0.20	0.66	ng/g	66	64	ng/g	
Experiment C	C1	HGH54	HGH54-2-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	THg	57.7		Yes	Yes	0.16	0.55	ng/g	58	55	ng/g	
Experiment C	C2	HGM00	HGM00-1A-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.157790249	U	No	Yes	0.198142	0	ng/L	0.0014	-0.0005	ng/cm^2	
Experiment C	C2	HGM00	HGM00-1B-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.175959884	U	No	Yes	0.19653	0	ng/L	0.0015	-0.00034	ng/cm^2	
Experiment C	C2	HGM00	HGM00-1C-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.310982337		Yes	Yes	0.196034	0	ng/L	0.0027	0.00083	ng/cm^2	
Experiment C	C2	HGM00	HGM00-1A-DGT	0	NA	12/8/2012	N	DGT	NA	THg	1.960063408	U	No	Yes	2.5	0	ng/L	0.012	-0.0081	ng/cm^2	
Experiment C	C2	HGM00	HGM00-1B-DGT	0	NA	12/8/2012	N	DGT	NA	THg	4.264083688		Yes	Yes	2.5	0	ng/L	0.026	0.0059	ng/cm^2	
Experiment C	C2	HGM00	HGM00-1C-DGT	0	NA	12/8/2012	N	DGT	NA	THg	3.642260241		Yes	Yes	2.5	0	ng/L	0.022	0.0021	ng/cm^2	
Experiment C	C2	HGM00	HGM00-1-POR	0	NA	12/8/2012	N	POR	NA	MeHg	0.890	U	No	Yes	0.890	2.23	ng/L	0.91	-0.12	ng/L	
Experiment C	C2	HGM00	HGM00-1-POR	0	NA	12/8/2012	N	POR	NA	Sulfate	1.8		Yes	Yes			mg/L	1.8	1.8	mg/L	
Experiment C	C2	HGM00	HGM00-1-POR	0	NA	12/8/2012	N	POR	NA	THg	111		Yes	Yes	3.52	9.39	ng/L	110	100	ng/L	
Experiment C	C2	HGM00	HGM00-1-SED	0	NA	12/8/2012	N	SED	NA	%TS	13.88		Yes	Yes	0.08	0.25	%	14	14	%	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment C	C2	HGM00	HGM00-1-SED	0	NA	12/8/2012	N	SED	NA	AVS	4.257141405		Yes	Yes			µmol/g	4.3	4.3	µmol/g	
Experiment C	C2	HGM00	HGM00-1-SED	0	NA	12/8/2012	N	SED	NA	MeHg	3.08		Yes	Yes	0.059	0.185	ng/g	3.1	3.1	ng/g	
Experiment C	C2	HGM00	HGM00-1-SED	0	NA	12/8/2012	N	SED	NA	THg	2510		Yes	Yes	10.8	35.9	ng/g	2500	2500	ng/g	
Experiment C	C2	HGM00	HGM00-1-SED	0	NA	12/8/2012	N	SED	NA	TOC	14.1		Yes	Yes		0.2	%	14	14	%	
Experiment C	C2	HGM00	HGM00-1A-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-0.033	ng/g	
Experiment C	C2	HGM00	HGM00-1B-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.7	ng/g	0.9	-0.033	ng/g	
Experiment C	C2	HGM00	HGM00-1C-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	0.067	ng/g	
Experiment C	C2	HGM00	HGM00-1A-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	2.75		Yes	Yes	0.37	0.92	ng/g	2.8	0.2	ng/g	
Experiment C	C2	HGM00	HGM00-1B-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	2.95		Yes	Yes	0.37	0.91	ng/g	3	0.4	ng/g	
Experiment C	C2	HGM00	HGM00-1C-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	1.96		Yes	Yes	0.38	0.95	ng/g	2	-0.59	ng/g	
Experiment C	C2	HGM03	HGM03-1A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.790614718		Yes	Yes	0.199313	0	ng/L	0.0069	0.005	ng/cm^2	
Experiment C	C2	HGM03	HGM03-1B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.881377719		Yes	Yes	0.199166	0	ng/L	0.0076	0.0058	ng/cm^2	
Experiment C	C2	HGM03	HGM03-2A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.583256163		Yes	Yes	0.1956	0	ng/L	0.0051	0.0032	ng/cm^2	
Experiment C	C2	HGM03	HGM03-2B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.866862158		Yes	Yes	0.195977	0	ng/L	0.0075	0.0057	ng/cm^2	
Experiment C	C2	HGM03	HGM03-1A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	7.452414974		Yes	Yes	5	0	ng/L	0.045	0.025	ng/cm^2	
Experiment C	C2	HGM03	HGM03-1B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	23.49092998		Yes	Yes	5	0	ng/L	0.14	0.12	ng/cm^2	
Experiment C	C2	HGM03	HGM03-2A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	16.60496744		Yes	Yes	5	0	ng/L	0.1	0.081	ng/cm^2	
Experiment C	C2	HGM03	HGM03-2B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	10.04546507		Yes	Yes	5	0	ng/L	0.061	0.041	ng/cm^2	
Experiment C	C2	HGM03	HGM03-1-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-0.033	ng/g	
Experiment C	C2	HGM03	HGM03-2-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	0.067	ng/g	
Experiment C	C2	HGM03	HGM03-1-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	THg	18.2		Yes	Yes	0.37	0.93	ng/g	18	16	ng/g	
Experiment C	C2	HGM03	HGM03-2-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	THg	9.35		Yes	Yes	0.39	0.98	ng/g	9.4	6.8	ng/g	
Experiment C	C2	HGM10	HGM10-1A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	2.525772791		Yes	Yes	0.197095	0	ng/L	0.022	0.02	ng/cm^2	
Experiment C	C2	HGM10	HGM10-1B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	3.309978861		Yes	Yes	0.19844	0	ng/L	0.029	0.027	ng/cm^2	
Experiment C	C2	HGM10	HGM10-2A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	2.238163058		Yes	Yes	0.19763	0	ng/L	0.019	0.018	ng/cm^2	
Experiment C	C2	HGM10	HGM10-2B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	2.016003945		Yes	Yes	0.197261	0	ng/L	0.017	0.016	ng/cm^2	
Experiment C	C2	HGM10	HGM10-1A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	31.25997784		Yes	Yes	5	0	ng/L	0.19	0.17	ng/cm^2	
Experiment C	C2	HGM10	HGM10-1B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	38.85819262		Yes	Yes	5	0	ng/L	0.24	0.22	ng/cm^2	
Experiment C	C2	HGM10	HGM10-2A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	23.86188717		Yes	Yes	5	0	ng/L	0.14	0.12	ng/cm^2	
Experiment C	C2	HGM10	HGM10-2B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	29.71168643		Yes	Yes	5	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C2	HGM10	HGM10-1-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	MeHg	0.98	U	No	Yes	0.98	2.94	ng/g	0.98	0.047	ng/g	
Experiment C	C2	HGM10	HGM10-2-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	MeHg	1.08	U	No	Yes	1.08	3.23	ng/g	1.1	0.15	ng/g	
Experiment C	C2	HGM10	HGM10-1-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	THg	23.0		Yes	Yes	0.39	0.98	ng/g	23	20	ng/g	
Experiment C	C2	HGM10	HGM10-2-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	THg	16.4		Yes	Yes	0.43	1.08	ng/g	16	14	ng/g	
Experiment C	C2	HGM20	HGM20-1A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	5.757426253		Yes	Yes	0.197031	0	ng/L	0.05	0.048	ng/cm^2	
Experiment C	C2	HGM20	HGM20-1B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	3.441397271		Yes	Yes	0.195464	0	ng/L	0.03	0.028	ng/cm^2	
Experiment C	C2	HGM20	HGM20-2A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	5.243993436		Yes	Yes	0.198401	0	ng/L	0.045	0.044	ng/cm^2	
Experiment C	C2	HGM20	HGM20-2B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	4.217454011		Yes	Yes	0.19649	0	ng/L	0.037	0.035	ng/cm^2	
Experiment C	C2	HGM20	HGM20-1A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	34.14336601		Yes	Yes	10	0	ng/L	0.21	0.19	ng/cm^2	
Experiment C	C2	HGM20	HGM20-1B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	33.07145716		Yes	Yes	10	0	ng/L	0.2	0.18	ng/cm^2	
Experiment C	C2	HGM20	HGM20-2A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	41.21565967		Yes	Yes	10	0	ng/L	0.25	0.23	ng/cm^2	
Experiment C	C2	HGM20	HGM20-2B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	24.79296023		Yes	Yes	10	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C2	HGM20	HGM20-1-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	MeHg	1.05	U	No	Yes	1.05	3.15	ng/g	1.1	0.12	ng/g	
Experiment C	C2	HGM20	HGM20-2-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	MeHg	0.98	U	No	Yes	0.98	2.94	ng/g	0.98	0.047	ng/g	
Experiment C	C2	HGM20	HGM20-1-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	THg	11.2		Yes	Yes	0.42	1.05	ng/g	11	8.6	ng/g	
Experiment C	C2	HGM20	HGM20-2-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	THg	46.7		Yes	Yes	0.34	1.12	ng/g	47	44	ng/g	
Experiment C	C2	HGM34	HGM34-1A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	8.676415283		Yes	Yes	0.199536	0	ng/L	0.075	0.073	ng/cm^2	
Experiment C	C2	HGM34	HGM34-1B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	8.537606608		Yes	Yes	0.197773	0	ng/L	0.074	0.072	ng/cm^2	
Experiment C	C2	HGM34	HGM34-2A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	9.83505419		Yes	Yes	0.196986	0	ng/L	0.085	0.083	ng/cm^2	
Experiment C	C2	HGM34	HGM34-2B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	10.0715693		Yes	Yes	0.199592	0	ng/L	0.087	0.085	ng/cm^2	
Experiment C	C2	HGM34	HGM34-1A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	25.15734997		Yes	Yes	10	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C2	HGM34	HGM34-1B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	41.66760293		Yes	Yes	10	0	ng/L	0.25	0.23	ng/cm^2	
Experiment C	C2	HGM34	HGM34-2A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	54.09734192		Yes	Yes	10	0	ng/L	0.33	0.31	ng/cm^2	
Experiment C	C2	HGM34	HGM34-2B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	46.37239984		Yes	Yes	10	0	ng/L	0.28	0.26	ng/cm^2	
Experiment C	C2	HGM34	HGM34-1-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	MeHg	1.07	U	No	Yes	1.07	3.22	ng/g	1.1	0.14	ng/g	
Experiment C	C2	HGM34	HGM34-2-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	MeHg	0.90	U	No	Yes	0.90	2.71	ng/g	0.9	-0.033	ng/g	
Experiment C	C2	HGM34	HGM34-1-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	THg	14.3		Yes	Yes	0.38	1.28	ng/g	14	12	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment C	C2	HGM34	HGM34-2-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	THg	31.6		Yes	Yes	0.39	1.29	ng/g	32	29	ng/g	
Experiment C	C2	HGM44	HGM44-1A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	9.821192684		Yes	Yes	0.200946	0	ng/L	0.085	0.083	ng/cm^2	
Experiment C	C2	HGM44	HGM44-1B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	9.449056826		Yes	Yes	0.197288	0	ng/L	0.082	0.08	ng/cm^2	
Experiment C	C2	HGM44	HGM44-2A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	14.0746096		Yes	Yes	0.194454	0	ng/L	0.12	0.12	ng/cm^2	
Experiment C	C2	HGM44	HGM44-2B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	9.710621933		Yes	Yes	0.194834	0	ng/L	0.084	0.082	ng/cm^2	
Experiment C	C2	HGM44	HGM44-1A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	25.34430495		Yes	Yes	10	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C2	HGM44	HGM44-1B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	30.2179106		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C2	HGM44	HGM44-2A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	37.702799		Yes	Yes	10	0	ng/L	0.23	0.21	ng/cm^2	
Experiment C	C2	HGM44	HGM44-2B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	30.47328972		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C2	HGM44	HGM44-1-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	MeHg	1.05	B	Yes	Yes	0.91	2.73	ng/g	1.1	0.12	ng/g	
Experiment C	C2	HGM44	HGM44-2-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	MeHg	0.97	U	No	Yes	0.97	2.92	ng/g	0.97	0.037	ng/g	
Experiment C	C2	HGM44	HGM44-1-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	THg	25.0		Yes	Yes	0.32	1.07	ng/g	25	22	ng/g	
Experiment C	C2	HGM44	HGM44-2-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	THg	21.5		Yes	Yes	0.28	0.94	ng/g	22	19	ng/g	
Experiment C	C2	HGM54	HGM54-1A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	13.44091238		Yes	Yes	0.199449	0	ng/L	0.12	0.11	ng/cm^2	
Experiment C	C2	HGM54	HGM54-1B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	9.744581623		Yes	Yes	0.199998	0	ng/L	0.084	0.083	ng/cm^2	
Experiment C	C2	HGM54	HGM54-2A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	18.69543426		Yes	Yes	0.197527	0	ng/L	0.16	0.16	ng/cm^2	
Experiment C	C2	HGM54	HGM54-2B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	13.050356		Yes	Yes	0.197968	0	ng/L	0.11	0.11	ng/cm^2	
Experiment C	C2	HGM54	HGM54-1A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	39.92313757		Yes	Yes	10	0	ng/L	0.24	0.22	ng/cm^2	
Experiment C	C2	HGM54	HGM54-1B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	39.60037348		Yes	Yes	10	0	ng/L	0.24	0.22	ng/cm^2	
Experiment C	C2	HGM54	HGM54-2A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	29.5463094		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C2	HGM54	HGM54-2B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	29.81230993		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C2	HGM54	HGM54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	MeHg	1.08	U	No	Yes	1.08	2.71	ng/L	1.1	0.052	ng/L	
Experiment C	C2	HGM54	HGM54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	Sulfate	14		Yes	Yes			mg/L	14	14	mg/L	
Experiment C	C2	HGM54	HGM54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	THg	93.3		Yes	Yes	4.20	11.2	ng/L	95	47	ng/L	
Experiment C	C2	HGM54	HGM54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	%TS	16.51		Yes	Yes	0.22	0.72	%	17	17	%	
Experiment C	C2	HGM54	HGM54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	AVS	2.632690742		Yes	Yes			µmol/g	2.6	2.6	µmol/g	
Experiment C	C2	HGM54	HGM54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	MeHg	0.506		Yes	Yes	0.050	0.157	ng/g	0.51	0.51	ng/g	
Experiment C	C2	HGM54	HGM54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	THg	3220		Yes	Yes	17.0	56.7	ng/g	3200	3200	ng/g	
Experiment C	C2	HGM54	HGM54-1-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	MeHg	1.05	U	No	Yes	1.05	3.15	ng/g	1.1	0.12	ng/g	
Experiment C	C2	HGM54	HGM54-2-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	MeHg	0.93	U	No	Yes	0.93	2.79	ng/g	0.93	-0.0033	ng/g	
Experiment C	C2	HGM54	HGM54-1-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	THg	26.6		Yes	Yes	0.32	1.06	ng/g	27	24	ng/g	
Experiment C	C2	HGM54	HGM54-2-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	THg	28.4		Yes	Yes	0.29	0.97	ng/g	28	26	ng/g	
Experiment C	C3	HGL00	HGL00-1A-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.157790249	U	No	Yes	0.198142	0	ng/L	0.0014	-0.0005	ng/cm^2	
Experiment C	C3	HGL00	HGL00-1B-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.175959884	U	No	Yes	0.19653	0	ng/L	0.0015	-0.00034	ng/cm^2	
Experiment C	C3	HGL00	HGL00-1C-DGT	0	NA	12/8/2012	N	DGT	NA	MeHg	0.310982337		Yes	Yes	0.196034	0	ng/L	0.0027	0.00083	ng/cm^2	
Experiment C	C3	HGL00	HGL00-1A-DGT	0	NA	12/8/2012	N	DGT	NA	THg	1.960063408	U	No	Yes	2.5	0	ng/L	0.012	-0.0081	ng/cm^2	
Experiment C	C3	HGL00	HGL00-1B-DGT	0	NA	12/8/2012	N	DGT	NA	THg	4.264083688		Yes	Yes	2.5	0	ng/L	0.026	0.0059	ng/cm^2	
Experiment C	C3	HGL00	HGL00-1C-DGT	0	NA	12/8/2012	N	DGT	NA	THg	3.642260241		Yes	Yes	2.5	0	ng/L	0.022	0.0021	ng/cm^2	
Experiment C	C3	HGL00	HGL00-1-POR	0	NA	12/8/2012	N	POR	NA	MeHg	0.888	U	No	Yes	0.888	2.22	ng/L	0.91	-0.12	ng/L	
Experiment C	C3	HGL00	HGL00-1-POR	0	NA	12/8/2012	N	POR	NA	Sulfate	2.1		Yes	Yes			mg/L	2.1	2.1	mg/L	
Experiment C	C3	HGL00	HGL00-1-POR	0	NA	12/8/2012	N	POR	NA	THg	39.4		Yes	Yes	3.52	9.39	ng/L	40	27	ng/L	
Experiment C	C3	HGL00	HGL00-1-SED	0	NA	12/8/2012	N	SED	NA	%TS	14.96		Yes	Yes	0.08	0.25	%	15	15	%	
Experiment C	C3	HGL00	HGL00-1-SED	0	NA	12/8/2012	N	SED	NA	AVS	1.079616803		Yes	Yes			µmol/g	1.1	1.1	µmol/g	
Experiment C	C3	HGL00	HGL00-1-SED	0	NA	12/8/2012	N	SED	NA	MeHg	2.65		Yes	Yes	0.093	0.290	ng/g	2.7	2.7	ng/g	
Experiment C	C3	HGL00	HGL00-1-SED	0	NA	12/8/2012	N	SED	NA	THg	1020		Yes	Yes	9.49	31.6	ng/g	1000	1000	ng/g	
Experiment C	C3	HGL00	HGL00-1-SED	0	NA	12/8/2012	N	SED	NA	TOC	14.8		Yes	Yes		0.2	%	15	15	%	
Experiment C	C3	HGL00	HGL00-1A-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-0.033	ng/g	
Experiment C	C3	HGL00	HGL00-1B-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.7	ng/g	0.9	-0.033	ng/g	
Experiment C	C3	HGL00	HGL00-1C-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	MeHg	1.0	U	No	Yes	1.0	2.9	ng/g	1	0.067	ng/g	
Experiment C	C3	HGL00	HGL00-1A-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	2.75		Yes	Yes	0.37	0.92	ng/g	2.8	0.2	ng/g	
Experiment C	C3	HGL00	HGL00-1B-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	2.95		Yes	Yes	0.37	0.91	ng/g	3	0.4	ng/g	
Experiment C	C3	HGL00	HGL00-1C-TIS	0	NA	12/8/2012	N	TIS	*L. variegatus*	THg	1.96		Yes	Yes	0.38	0.95	ng/g	2	-0.59	ng/g	
Experiment C	C3	HGL03	HGL03-1A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.586211094		Yes	Yes	0.196862	0	ng/L	0.0051	0.0032	ng/cm^2	
Experiment C	C3	HGL03	HGL03-1B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.829076103		Yes	Yes	0.199113	0	ng/L	0.0072	0.0053	ng/cm^2	
Experiment C	C3	HGL03	HGL03-2A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.749328058		Yes	Yes	0.199271	0	ng/L	0.0065	0.0046	ng/cm^2	
Experiment C	C3	HGL03	HGL03-2B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	MeHg	0.635218711		Yes	Yes	0.199493	0	ng/L	0.0055	0.0036	ng/cm^2	
Experiment C	C3	HGL03	HGL03-1A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	16.98053662		Yes	Yes	5	0	ng/L	0.1	0.083	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment C	C3	HGL03	HGL03-1B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	14.27130724		Yes	Yes	5	0	ng/L	0.086	0.067	ng/cm^2	
Experiment C	C3	HGL03	HGL03-2A-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	23.9581423		Yes	Yes	5	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C3	HGL03	HGL03-2B-DGT	3	12/8/2012	12/11/2012	N	DGT	NA	THg	13.1629815		Yes	Yes	5	0	ng/L	0.08	0.06	ng/cm^2	
Experiment C	C3	HGL03	HGL03-1-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-0.033	ng/g	
Experiment C	C3	HGL03	HGL03-2-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	MeHg	0.9	U	No	Yes	0.9	2.8	ng/g	0.9	-0.033	ng/g	
Experiment C	C3	HGL03	HGL03-1-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	THg	13.9		Yes	Yes	0.38	0.94	ng/g	14	11	ng/g	
Experiment C	C3	HGL03	HGL03-2-TIS	3	12/8/2012	12/11/2012	N	TIS	*L. variegatus*	THg	8.66		Yes	Yes	0.37	0.92	ng/g	8.7	6.1	ng/g	
Experiment C	C3	HGL10	HGL10-1A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	2.68550387		Yes	Yes	0.198339	0	ng/L	0.023	0.021	ng/cm^2	
Experiment C	C3	HGL10	HGL10-1B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	2.120584056		Yes	Yes	0.199867	0	ng/L	0.018	0.017	ng/cm^2	
Experiment C	C3	HGL10	HGL10-2A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	1.646972682		Yes	Yes	0.197953	0	ng/L	0.014	0.012	ng/cm^2	
Experiment C	C3	HGL10	HGL10-2B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	MeHg	1.744992542		Yes	Yes	0.198407	0	ng/L	0.015	0.013	ng/cm^2	
Experiment C	C3	HGL10	HGL10-1A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	31.10149665		Yes	Yes	5	0	ng/L	0.19	0.17	ng/cm^2	
Experiment C	C3	HGL10	HGL10-1B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	24.81043842		Yes	Yes	5	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C3	HGL10	HGL10-2A-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	25.16533496		Yes	Yes	5	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C3	HGL10	HGL10-2B-DGT	10	12/8/2012	12/18/2012	N	DGT	NA	THg	36.27363735		Yes	Yes	5	0	ng/L	0.22	0.2	ng/cm^2	
Experiment C	C3	HGL10	HGL10-1-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	MeHg	1.06	U	No	Yes	1.06	3.18	ng/g	1.1	0.13	ng/g	
Experiment C	C3	HGL10	HGL10-2-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	MeHg	0.99	U	No	Yes	0.99	2.96	ng/g	0.99	0.057	ng/g	
Experiment C	C3	HGL10	HGL10-1-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	THg	11.1		Yes	Yes	0.42	1.06	ng/g	11	8.5	ng/g	
Experiment C	C3	HGL10	HGL10-2-TIS	10	12/8/2012	12/18/2012	N	TIS	*L. variegatus*	THg	31.4		Yes	Yes	0.39	0.99	ng/g	31	29	ng/g	
Experiment C	C3	HGL20	HGL20-1A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	5.60053874		Yes	Yes	0.200143	0	ng/L	0.049	0.047	ng/cm^2	
Experiment C	C3	HGL20	HGL20-1B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	4.873147499		Yes	Yes	0.198494	0	ng/L	0.042	0.04	ng/cm^2	
Experiment C	C3	HGL20	HGL20-2A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	5.983514564		Yes	Yes	0.198338	0	ng/L	0.052	0.05	ng/cm^2	
Experiment C	C3	HGL20	HGL20-2B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	MeHg	4.902992394		Yes	Yes	0.194875	0	ng/L	0.043	0.041	ng/cm^2	
Experiment C	C3	HGL20	HGL20-1A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	29.52880922		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C3	HGL20	HGL20-1B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	29.91617949		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C3	HGL20	HGL20-2A-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	39.72080898		Yes	Yes	10	0	ng/L	0.24	0.22	ng/cm^2	
Experiment C	C3	HGL20	HGL20-2B-DGT	20	12/8/2012	12/28/2012	N	DGT	NA	THg	44.73707864		Yes	Yes	10	0	ng/L	0.27	0.25	ng/cm^2	
Experiment C	C3	HGL20	HGL20-1-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	MeHg	0.98	U	No	Yes	0.98	2.93	ng/g	0.98	0.047	ng/g	
Experiment C	C3	HGL20	HGL20-2-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	MeHg	1.09	U	No	Yes	1.09	3.28	ng/g	1.1	0.16	ng/g	
Experiment C	C3	HGL20	HGL20-1-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	THg	10.0		Yes	Yes	0.39	0.98	ng/g	10	7.4	ng/g	
Experiment C	C3	HGL20	HGL20-2-TIS	20	12/8/2012	12/28/2012	N	TIS	*L. variegatus*	THg	8.00		Yes	Yes	0.44	1.09	ng/g	8	5.4	ng/g	
Experiment C	C3	HGL34	HGL34-1A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	9.621892553		Yes	Yes	0.198981	0	ng/L	0.083	0.082	ng/cm^2	
Experiment C	C3	HGL34	HGL34-1B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	6.702713564		Yes	Yes	0.198051	0	ng/L	0.058	0.056	ng/cm^2	
Experiment C	C3	HGL34	HGL34-2A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	7.018617321		Yes	Yes	0.19759	0	ng/L	0.061	0.059	ng/cm^2	
Experiment C	C3	HGL34	HGL34-2B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	MeHg	5.814619233		Yes	Yes	0.195857	0	ng/L	0.05	0.049	ng/cm^2	
Experiment C	C3	HGL34	HGL34-1A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	30.13699995		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C3	HGL34	HGL34-1B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	23.3008082		Yes	Yes	10	0	ng/L	0.14	0.12	ng/cm^2	
Experiment C	C3	HGL34	HGL34-2A-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	38.30648308		Yes	Yes	10	0	ng/L	0.23	0.21	ng/cm^2	
Experiment C	C3	HGL34	HGL34-2B-DGT	34	12/8/2012	1/11/2013	N	DGT	NA	THg	38.32741723		Yes	Yes	10	0	ng/L	0.23	0.21	ng/cm^2	
Experiment C	C3	HGL34	HGL34-1-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	MeHg	0.93	U	No	Yes	0.93	2.78	ng/g	0.93	-0.0033	ng/g	
Experiment C	C3	HGL34	HGL34-2-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	MeHg	0.93	U	No	Yes	0.93	2.79	ng/g	0.93	-0.0033	ng/g	
Experiment C	C3	HGL34	HGL34-1-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	THg	11.4		Yes	Yes	0.33	1.12	ng/g	11	8.8	ng/g	
Experiment C	C3	HGL34	HGL34-2-TIS	34	12/8/2012	1/11/2013	N	TIS	*L. variegatus*	THg	23.0		Yes	Yes	0.45	1.50	ng/g	23	20	ng/g	
Experiment C	C3	HGL44	HGL44-1A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	10.76821353		Yes	Yes	0.1968	0	ng/L	0.093	0.092	ng/cm^2	
Experiment C	C3	HGL44	HGL44-1B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	4.159641967		Yes	Yes	0.199221	0	ng/L	0.036	0.034	ng/cm^2	
Experiment C	C3	HGL44	HGL44-2A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	8.611665782		Yes	Yes	0.197366	0	ng/L	0.075	0.073	ng/cm^2	
Experiment C	C3	HGL44	HGL44-2B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	MeHg	5.848978782		Yes	Yes	0.203188	0	ng/L	0.051	0.049	ng/cm^2	
Experiment C	C3	HGL44	HGL44-1A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	15.44327432		Yes	Yes	10	0	ng/L	0.094	0.074	ng/cm^2	
Experiment C	C3	HGL44	HGL44-1B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	29.98447821		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C3	HGL44	HGL44-2A-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	27.98316302		Yes	Yes	10	0	ng/L	0.17	0.15	ng/cm^2	
Experiment C	C3	HGL44	HGL44-2B-DGT	44	12/8/2012	1/21/2013	N	DGT	NA	THg	47.79473018		Yes	Yes	10	0	ng/L	0.29	0.27	ng/cm^2	
Experiment C	C3	HGL44	HGL44-1-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	MeHg	1.22	B	Yes	Yes	1.02	3.06	ng/g	1.2	0.29	ng/g	
Experiment C	C3	HGL44	HGL44-2-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	MeHg	0.94	U	No	Yes	0.94	2.83	ng/g	0.94	0.0067	ng/g	
Experiment C	C3	HGL44	HGL44-1-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	THg	11.2		Yes	Yes	0.33	1.09	ng/g	11	8.6	ng/g	
Experiment C	C3	HGL44	HGL44-2-TIS	44	12/8/2012	1/21/2013	N	TIS	*L. variegatus*	THg	12.6		Yes	Yes	0.34	1.12	ng/g	13	10	ng/g	
Experiment C	C3	HGL54	HGL54-1A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	4.920503904		Yes	Yes	0.197895	0	ng/L	0.043	0.041	ng/cm^2	
Experiment C	C3	HGL54	HGL54-1B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	3.867392754		Yes	Yes	0.196984	0	ng/L	0.034	0.032	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment C	C3	HGL54	HGL54-2A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	4.012086366		Yes	Yes	0.196416	0	ng/L	0.035	0.033	ng/cm^2	
Experiment C	C3	HGL54	HGL54-2B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	MeHg	3.682148069		Yes	Yes	0.197327	0	ng/L	0.032	0.03	ng/cm^2	
Experiment C	C3	HGL54	HGL54-1A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	24.13016855		Yes	Yes	10	0	ng/L	0.15	0.13	ng/cm^2	
Experiment C	C3	HGL54	HGL54-1B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	19.63957376		Yes	Yes	10	0	ng/L	0.12	0.099	ng/cm^2	
Experiment C	C3	HGL54	HGL54-2A-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	30.93585847		Yes	Yes	10	0	ng/L	0.19	0.17	ng/cm^2	
Experiment C	C3	HGL54	HGL54-2B-DGT	54	12/8/2012	1/31/2013	N	DGT	NA	THg	30.38050124		Yes	Yes	10	0	ng/L	0.18	0.16	ng/cm^2	
Experiment C	C3	HGL54	HGL54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	MeHg	0.993	U	No	Yes	0.993	2.48	ng/L	1	-0.037	ng/L	
Experiment C	C3	HGL54	HGL54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	Sulfate	22		Yes	Yes			mg/L	22	22	mg/L	
Experiment C	C3	HGL54	HGL54-1-POR	54	12/8/2012	1/31/2013	N	POR	NA	THg	150		Yes	Yes	3.75	10.0	ng/L	150	100	ng/L	
Experiment C	C3	HGL54	HGL54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	%TS	15.93		Yes	Yes	0.22	0.72	%	16	16	%	
Experiment C	C3	HGL54	HGL54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	AVS	1.045275764		Yes	Yes			µmol/g	1	1	µmol/g	
Experiment C	C3	HGL54	HGL54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	MeHg	0.367		Yes	Yes	0.055	0.171	ng/g	0.37	0.37	ng/g	
Experiment C	C3	HGL54	HGL54-1-SED	54	12/8/2012	1/31/2013	N	SED	NA	THg	1110		Yes	Yes	18.7	62.3	ng/g	1100	1100	ng/g	
Experiment C	C3	HGL54	HGL54-1-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	MeHg	1.02	U	No	Yes	1.02	3.07	ng/g	1	0.087	ng/g	
Experiment C	C3	HGL54	HGL54-2-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	MeHg	1.09	U	No	Yes	1.09	3.26	ng/g	1.1	0.16	ng/g	
Experiment C	C3	HGL54	HGL54-1-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	THg	12.3		Yes	Yes	0.26	0.85	ng/g	12	9.7	ng/g	
Experiment C	C3	HGL54	HGL54-2-TIS	54	12/8/2012	1/31/2013	N	TIS	*L. variegatus*	THg	17.5		Yes	Yes	0.67	2.24	ng/g	18	15	ng/g	
Experiment C	NA	NA	HGB00-1-POR	0	NA	12/8/2012	B	POR	NA	MeHg	1.01	U	No	Yes	1.01	2.52	ng/L	1	0	ng/L	
Experiment C	NA	NA	HGB00-1-POR	0	NA	12/8/2012	B	POR	NA	THg	13.3		Yes	Yes	3.29	8.77	ng/L	14	0	ng/L	
Experiment C	NA	NA	HGB54-1-POR	54	NA	1/31/2013	B	POR	NA	MeHg	1.00	U	No	Yes	1.00	2.50	ng/L	1	-0.03	ng/L	
Experiment C	NA	NA	HGB54-1-POR	54	NA	1/31/2013	B	POR	NA	THg	46.2		Yes	Yes	3.29	8.77	ng/L	47	-1.4	ng/L	
Experiment D	Clam Background Check	NA	JCCPND-01-06-121213	0	NA	12/12/2013	B	TIS	*M. nasuta*	THg	7.55		Yes	No	0.12	0.39	ng/g	7.6	7.6	ng/g	Value not retained; high blank concentration
Experiment D	Clam Background Check	NA	JCDBPH-01-08-121213	0	NA	12/12/2013	B	TIS	*M. nasuta*	THg	31.5		Yes	No	0.12	0.39	ng/g	32	32	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HMOOA-DGT	0	NA	9/7/2013	B	DGT	NA	MeHg	0.023399797		Yes	Yes			ng/L	0.000087	-0.023	ng/cm^2	
Experiment D	D1	NA	HMOOB-DGT	0	NA	9/7/2013	B	DGT	NA	MeHg	0.019791096		Yes	Yes			ng/L	0.000073	-0.023	ng/cm^2	
Experiment D	D1	NA	HMOOC-DGT	0	NA	9/7/2013	B	DGT	NA	MeHg	0.025599348		Yes	Yes			ng/L	0.000095	-0.023	ng/cm^2	
Experiment D	D1	NA	HMOOA-DGT	0	NA	9/7/2013	B	DGT	NA	THg	47.68784482		Yes	Yes			ng/L	0.18	-47	ng/cm^2	
Experiment D	D1	NA	HMOOB-DGT	0	NA	9/7/2013	B	DGT	NA	THg	63.38873557		Yes	Yes			ng/L	0.23	-47	ng/cm^2	
Experiment D	D1	NA	HMOOC-DGT	0	NA	9/7/2013	B	DGT	NA	THg	30.36098175		Yes	Yes			ng/L	0.11	-47	ng/cm^2	
Experiment D	D1	NA	HM00-A-TIS	0	NA	9/7/2013	B	TIS	*M. nasuta*	MeHg	19.0		Yes	No	0.97	2.92	ng/g	19	7.5	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HM00-B-TIS	0	NA	9/7/2013	B	TIS	*M. nasuta*	MeHg	11.6		Yes	No	1.08	3.23	ng/g	12	0.063	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HM00-C-TIS	0	NA	9/7/2013	B	TIS	*M. nasuta*	MeHg	4.01		Yes	No	0.97	2.91	ng/g	4	-7.5	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HM00-A-TIS	0	NA	9/7/2013	B	TIS	*M. nasuta*	THg	26.7		Yes	No	0.19	0.62	ng/g	27	-4.3	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HM00-B-TIS	0	NA	9/7/2013	B	TIS	*M. nasuta*	THg	45.1		Yes	No	0.47	1.58	ng/g	45	14	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HM00-C-TIS	0	NA	9/7/2013	B	TIS	*M. nasuta*	THg	21.3		Yes	No	0.15	0.50	ng/g	21	-9.7	ng/g	Value not retained; high blank concentration
Experiment D	D1	NA	HMB-14-POR	14	NA	9/21/2013	B	POR	NA	MeHg	5.66		Yes	Yes	1.01	2.52	ng/L	5.7	0	ng/L	
Experiment D	D1	PR02	PR-02-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	8.0988702		Yes	Yes			ng/L	0.03	0.0071	ng/cm^2	
Experiment D	D1	PR02	PR-02-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	87.10539534		Yes	Yes			ng/L	0.32	-47	ng/cm^2	
Experiment D	D1	PR02	PR2-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	2.39	B	Yes	Yes	0.989	2.47	ng/L	2.4	-3.3	ng/L	
Experiment D	D1	PR02	PR2-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	35.33		Yes	Yes	0.09	0.31	%	35	35	%	
Experiment D	D1	PR02	PR2-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	10.4		Yes	Yes	0.045	0.142	ng/g	10	10	ng/g	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment D	D1	PR02	PR2-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1630		Yes	Yes	20.6	68.6	ng/g	1600	1600	ng/g	
Experiment D	D1	PR02	PR2-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	10.7		Yes	No	1.05	3.15	ng/g	11	-0.84	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR02	PR2-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	94.0		Yes	No	0.12	0.40	ng/g	94	63	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR03	PR-03-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	8.646369808		Yes	Yes			ng/L	0.032	0.0091	ng/cm^2	
Experiment D	D1	PR03	PR-03-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	83.28570615		Yes	Yes			ng/L	0.31	-47	ng/cm^2	
Experiment D	D1	PR03	PR3-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	2.03	U	No	Yes	2.03	5.08	ng/L	2	-3.6	ng/L	
Experiment D	D1	PR03	PR3-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	38.72		Yes	Yes	0.09	0.31	%	39	39	%	
Experiment D	D1	PR03	PR3-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	6.64		Yes	Yes	0.045	0.139	ng/g	6.6	6.6	ng/g	
Experiment D	D1	PR03	PR3-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1630		Yes	Yes	18.3	61.0	ng/g	1600	1600	ng/g	
Experiment D	D1	PR03	PR3-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	42.5		Yes	No	0.99	2.97	ng/g	43	31	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR03	PR3-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	123		Yes	No	0.11	0.38	ng/g	120	92	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR05	PR-05-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	4.136367182		Yes	Yes			ng/L	0.015	-0.0076	ng/cm^2	
Experiment D	D1	PR05	PR-05-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	88.54107072		Yes	Yes			ng/L	0.33	-47	ng/cm^2	
Experiment D	D1	PR05	PR5-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	838		Yes	Yes	2.04	5.11	ng/L	840	840	ng/L	
Experiment D	D1	PR05	PR5-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	37.94		Yes	Yes	0.09	0.31	%	38	38	%	
Experiment D	D1	PR05	PR5-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	4.41		Yes	Yes	0.044	0.137	ng/g	4.4	4.4	ng/g	
Experiment D	D1	PR05	PR5-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1640		Yes	Yes	19.3	64.4	ng/g	1600	1600	ng/g	
Experiment D	D1	PR05	PR5-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	22.5		Yes	No	0.99	2.97	ng/g	23	11	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR05	PR5-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	65.0		Yes	No	0.12	0.38	ng/g	65	34	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR06	PR-06-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	1.424802906		Yes	Yes			ng/L	0.0053	-0.018	ng/cm^2	
Experiment D	D1	PR06	PR-06-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	63.58063972		Yes	Yes			ng/L	0.24	-47	ng/cm^2	
Experiment D	D1	PR06	PR6-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	2.87		Yes	Yes	1.11	2.77	ng/L	2.9	-2.8	ng/L	
Experiment D	D1	PR06	PR6-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	41.73		Yes	Yes	0.09	0.31	%	42	42	%	
Experiment D	D1	PR06	PR6-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	6.71	M	Yes	Yes	0.190	0.594	ng/g	6.7	6.7	ng/g	
Experiment D	D1	PR06	PR6-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1350		Yes	Yes	17.6	58.6	ng/g	1400	1400	ng/g	
Experiment D	D1	PR06	PR6-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	2.17	B	Yes	No	1.00	3.01	ng/g	2.2	-9.4	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR06	PR6-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	37.6		Yes	No	0.20	0.65	ng/g	38	6.6	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR08	PR-08-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	6.597005474		Yes	Yes			ng/L	0.024	0.0015	ng/cm^2	
Experiment D	D1	PR08	PR-08-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	91.11634393		Yes	Yes			ng/L	0.34	-47	ng/cm^2	
Experiment D	D1	PR08	PR8-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	32.82		Yes	Yes	0.09	0.31	%	33	33	%	
Experiment D	D1	PR08	PR8-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	6.93		Yes	Yes	0.051	0.160	ng/g	6.9	6.9	ng/g	
Experiment D	D1	PR08	PR8-14-SED	14	NA	9/21/2013	N	SED	NA	THg	2430		Yes	Yes	22.5	75.1	ng/g	2400	2400	ng/g	
Experiment D	D1	PR08	PR8-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	7.38		Yes	No	1.01	3.02	ng/g	7.4	-4.2	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR08	PR8-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	39.3		Yes	No	0.19	0.62	ng/g	39	8.3	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR09	PR-09-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	5.153549695		Yes	Yes			ng/L	0.019	-0.0038	ng/cm^2	
Experiment D	D1	PR09	PR-09-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	66.18678948		Yes	Yes			ng/L	0.25	-47	ng/cm^2	
Experiment D	D1	PR09	PR9-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	2.01	B	Yes	Yes	1.08	2.71	ng/L	2	-3.7	ng/L	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment D	D1	PR09	PR9-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	34.40		Yes	Yes	0.09	0.31	%	34	34	%	
Experiment D	D1	PR09	PR9-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	9.40		Yes	Yes	0.048	0.150	ng/g	9.4	9.4	ng/g	
Experiment D	D1	PR09	PR9-14-SED	14	NA	9/21/2013	N	SED	NA	THg	2100		Yes	Yes	22.4	74.8	ng/g	2100	2100	ng/g	
Experiment D	D1	PR09	PR9-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	7.04		Yes	No	1.00	3.00	ng/g	7	-4.5	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR09	PR9-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	33.6		Yes	No	0.37	1.22	ng/g	34	2.6	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR10	PR-10-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	5.559853475		Yes	Yes			ng/L	0.021	-0.0023	ng/cm^2	
Experiment D	D1	PR10	PR-10-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	60.71437323		Yes	Yes			ng/L	0.22	-47	ng/cm^2	
Experiment D	D1	PR10	PR10-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	30.8		Yes	Yes	1.05	2.62	ng/L	31	25	ng/L	
Experiment D	D1	PR10	PR10-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	37.11		Yes	Yes	0.09	0.31	%	37	37	%	
Experiment D	D1	PR10	PR10-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	4.06		Yes	Yes	0.046	0.143	ng/g	4.1	4.1	ng/g	
Experiment D	D1	PR10	PR10-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1530		Yes	Yes	19.1	63.7	ng/g	1500	1500	ng/g	
Experiment D	D1	PR10	PR10-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	8.38		Yes	No	0.96	2.88	ng/g	8.4	-3.2	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR10	PR10-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	23.4		Yes	No	0.12	0.39	ng/g	23	-7.6	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR11	PR-11-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	19.96093705		Yes	Yes			ng/L	0.074	0.051	ng/cm^2	
Experiment D	D1	PR11	PR-11-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	172.5313548		Yes	Yes			ng/L	0.64	-47	ng/cm^2	
Experiment D	D1	PR11	PR11-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	2.57	B	Yes	Yes	1.06	2.66	ng/L	2.6	-3.1	ng/L	
Experiment D	D1	PR11	PR11-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	34.75		Yes	Yes	0.09	0.31	%	35	35	%	
Experiment D	D1	PR11	PR11-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	10.5		Yes	Yes	0.238	0.744	ng/g	11	11	ng/g	
Experiment D	D1	PR11	PR11-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1370		Yes	Yes	21.8	72.7	ng/g	1400	1400	ng/g	
Experiment D	D1	PR11	PR11-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	11.4		Yes	No	1.05	3.16	ng/g	11	-0.14	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR11	PR11-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	40.9		Yes	No	0.12	0.39	ng/g	41	9.9	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR12	PR-12-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	6.699655961		Yes	Yes			ng/L	0.025	0.0019	ng/cm^2	
Experiment D	D1	PR12	PR-12-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	127.1842693		Yes	Yes			ng/L	0.47	-47	ng/cm^2	
Experiment D	D1	PR12	PR12-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	13.3		Yes	Yes	0.995	2.49	ng/L	13	7.7	ng/L	
Experiment D	D1	PR12	PR12-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	35.16		Yes	Yes	0.09	0.31	%	35	35	%	
Experiment D	D1	PR12	PR12-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	5.88		Yes	Yes	0.048	0.149	ng/g	5.9	5.9	ng/g	
Experiment D	D1	PR12	PR12-14-SED	14	NA	9/21/2013	N	SED	NA	THg	2030		Yes	Yes	21.3	71.0	ng/g	2000	2000	ng/g	
Experiment D	D1	PR12	PR12-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	8.34		Yes	No	0.95	2.86	ng/g	8.3	-3.2	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR12	PR12-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	31.9		Yes	No	0.13	0.42	ng/g	32	0.87	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR13	PR-13-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	8.599518536		Yes	Yes			ng/L	0.032	0.0089	ng/cm^2	
Experiment D	D1	PR13	PR-13-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	84.41907216		Yes	Yes			ng/L	0.31	-47	ng/cm^2	
Experiment D	D1	PR13	PR13-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	28.89		Yes	Yes	0.09	0.31	%	29	29	%	
Experiment D	D1	PR13	PR13-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	7.76		Yes	Yes	0.055	0.171	ng/g	7.8	7.8	ng/g	
Experiment D	D1	PR13	PR13-14-SED	14	NA	9/21/2013	N	SED	NA	THg	2330		Yes	Yes	25.9	86.5	ng/g	2300	2300	ng/g	
Experiment D	D1	PR13	PR13-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	11.2		Yes	No	0.99	2.96	ng/g	11	-0.34	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR13	PR13-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	54.9		Yes	No	0.12	0.39	ng/g	55	24	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR14	PR-14-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	51.45567473		Yes	Yes			ng/L	0.19	0.17	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment D	D1	PR14	PR-14-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	66.49508186		Yes	Yes			ng/L	0.25	-47	ng/cm^2	
Experiment D	D1	PR14	PR14-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	0.990	U	No	Yes	0.990	2.48	ng/L	0.99	-4.7	ng/L	
Experiment D	D1	PR14	PR14-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	35.19		Yes	Yes	0.09	0.31	%	35	35	%	
Experiment D	D1	PR14	PR14-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	7.02		Yes	Yes	0.046	0.144	ng/g	7	7	ng/g	
Experiment D	D1	PR14	PR14-14-SED	14	NA	9/21/2013	N	SED	NA	THg	1900		Yes	Yes	21.7	72.3	ng/g	1900	1900	ng/g	
Experiment D	D1	PR14	PR14-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	4.34		Yes	No	0.94	2.81	ng/g	4.3	-7.2	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR14	PR14-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	23.2		Yes	No	0.13	0.42	ng/g	23	-7.8	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR15	PR-15-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	MeHg	8.313099559		Yes	Yes			ng/L	0.031	0.0079	ng/cm^2	
Experiment D	D1	PR15	PR-15-14-DGT	14	9/7/2013	9/21/2013	N	DGT	NA	THg	83.36396924		Yes	Yes			ng/L	0.31	-47	ng/cm^2	
Experiment D	D1	PR15	PR15-14-POR	14	NA	9/21/2013	N	POR	NA	MeHg	0.996	U	No	Yes	0.996	2.49	ng/L	1	-4.7	ng/L	
Experiment D	D1	PR15	PR15-14-SED	14	NA	9/21/2013	N	SED	NA	%TS	26.24		Yes	Yes	0.09	0.31	%	26	26	%	
Experiment D	D1	PR15	PR15-14-SED	14	NA	9/21/2013	N	SED	NA	MeHg	5.78		Yes	Yes	0.065	0.205	ng/g	5.8	5.8	ng/g	
Experiment D	D1	PR15	PR15-14-SED	14	NA	9/21/2013	N	SED	NA	THg	2880		Yes	Yes	27.7	92.4	ng/g	2900	2900	ng/g	
Experiment D	D1	PR15	PR15-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	MeHg	4.22		Yes	No	0.99	2.96	ng/g	4.2	-7.3	ng/g	Value not retained; high blank concentration
Experiment D	D1	PR15	PR15-14-TIS	14	9/7/2013	9/21/2013	N	TIS	*M. nasuta*	THg	16.2		Yes	No	0.11	0.37	ng/g	16	-15	ng/g	Value not retained; high blank concentration
Experiment D	D1 Screen	NA	PHM00-A-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	MeHg	1.37	B	Yes	Yes	0.80	2.39	ng/g	1.4	-0.68	ng/g	
Experiment D	D1 Screen	NA	PHM00-B-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	MeHg	1.00	U	No	Yes	1.00	3.00	ng/g	1	-1	ng/g	
Experiment D	D1 Screen	NA	PHM00-C-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	MeHg	2.21	B	Yes	Yes	1.02	3.05	ng/g	2.2	0.16	ng/g	
Experiment D	D1 Screen	NA	PHM00-D-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	MeHg	2.43	B	Yes	Yes	0.98	2.93	ng/g	2.4	0.38	ng/g	
Experiment D	D1 Screen	NA	PHM00-E-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	MeHg	3.22		Yes	Yes	0.88	2.65	ng/g	3.2	1.2	ng/g	
Experiment D	D1 Screen	NA	PHM00-F-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	MeHg	2.06	B	Yes	Yes	0.83	2.50	ng/g	2.1	0.012	ng/g	
Experiment D	D1 Screen	NA	PHM00-A-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	THg	24.4		Yes	Yes	0.24	0.79	ng/g	24	5.1	ng/g	
Experiment D	D1 Screen	NA	PHM00-B-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	THg	14.3		Yes	Yes	0.24	0.79	ng/g	14	-5	ng/g	
Experiment D	D1 Screen	NA	PHM00-C-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	THg	20.5		Yes	Yes	0.22	0.73	ng/g	21	1.2	ng/g	
Experiment D	D1 Screen	NA	PHM00-D-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	THg	24.0		Yes	Yes	0.25	0.82	ng/g	24	4.7	ng/g	
Experiment D	D1 Screen	NA	PHM00-E-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	THg	15.9		Yes	Yes	0.22	0.74	ng/g	16	-3.4	ng/g	
Experiment D	D1 Screen	NA	PHM00-F-TIS	0	NA	8/24/2013	B	TIS	*M. nasuta*	THg	16.9		Yes	Yes	0.23	0.76	ng/g	17	-2.4	ng/g	
Experiment D	D1 Screen	PR01	PR114-1-SED	14	NA	9/6/2013	N	SED	NA	%TS	23.72		Yes	Yes	0.30	1.00	%	24	24	%	
Experiment D	D1 Screen	PR01	PR114-1-SED	14	NA	9/6/2013	N	SED	NA	MeHg	7.84		Yes	Yes	0.036	0.111	ng/g	7.8	7.8	ng/g	
Experiment D	D1 Screen	PR01	PR114-1-SED	14	NA	9/6/2013	N	SED	NA	THg	1420		Yes	Yes	25.3	84.3	ng/g	1400	1400	ng/g	
Experiment D	D1 Screen	PR01	PR-114-1A-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	MeHg	5.09		Yes	Yes	0.87	2.62	ng/g	5.1	3	ng/g	
Experiment D	D1 Screen	PR01	PR-114-1B-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	MeHg	3.17		Yes	Yes	0.94	2.83	ng/g	3.2	1.1	ng/g	
Experiment D	D1 Screen	PR01	PR-114-1A-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	THg	18.8		Yes	Yes	0.33	1.09	ng/g	19	-0.53	ng/g	
Experiment D	D1 Screen	PR01	PR-114-1B-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	THg	72.7		Yes	Yes	0.20	0.67	ng/g	73	53	ng/g	
Experiment D	D1 Screen	PR04	PR414-1-SED	14	NA	9/6/2013	N	SED	NA	%TS	23.93		Yes	Yes	0.30	1.00	%	24	24	%	
Experiment D	D1 Screen	PR04	PR414-1-SED	14	NA	9/6/2013	N	SED	NA	MeHg	6.69		Yes	Yes	0.036	0.112	ng/g	6.7	6.7	ng/g	
Experiment D	D1 Screen	PR04	PR414-1-SED	14	NA	9/6/2013	N	SED	NA	THg	1700		Yes	Yes	26.3	87.8	ng/g	1700	1700	ng/g	
Experiment D	D1 Screen	PR04	PR-414-1A-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	MeHg	3.15		Yes	Yes	0.91	2.74	ng/g	3.2	1.1	ng/g	
Experiment D	D1 Screen	PR04	PR-414-1B-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	MeHg	4.02		Yes	Yes	1.05	3.14	ng/g	4	2	ng/g	
Experiment D	D1 Screen	PR04	PR-414-1A-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	THg	192		Yes	Yes	0.24	0.80	ng/g	190	170	ng/g	
Experiment D	D1 Screen	PR04	PR-414-1B-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	THg	362		Yes	Yes	0.23	0.77	ng/g	360	340	ng/g	
Experiment D	D1 Screen	PR07	PR714-1-SED	14	NA	9/6/2013	N	SED	NA	%TS	27.81		Yes	Yes	0.30	1.00	%	28	28	%	
Experiment D	D1 Screen	PR07	PR714-1-SED	14	NA	9/6/2013	N	SED	NA	MeHg	5.01		Yes	Yes	0.030	0.093	ng/g	5	5	ng/g	
Experiment D	D1 Screen	PR07	PR714-1-SED	14	NA	9/6/2013	N	SED	NA	THg	1680		Yes	Yes	22.0	73.2	ng/g	1700	1700	ng/g	
Experiment D	D1 Screen	PR07	PR-714-1A-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	MeHg	4.75		Yes	Yes	0.95	2.84	ng/g	4.8	2.7	ng/g	
Experiment D	D1 Screen	PR07	PR-714-1B-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	MeHg	3.78		Yes	Yes	0.99	2.98	ng/g	3.8	1.7	ng/g	
Experiment D	D1 Screen	PR07	PR-714-1A-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	THg	109		Yes	Yes	0.23	0.78	ng/g	110	90	ng/g	
Experiment D	D1 Screen	PR07	PR-714-1B-TIS	14	8/23/2013	9/6/2013	N	TIS	*M. nasuta*	THg	179		Yes	Yes	0.20	0.68	ng/g	180	160	ng/g	
Experiment D	D2	MF01	MF1-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	%TS	20.73		Yes		0.30	1.00	%	21	21	%	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment D	D2	MF01	MF1-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	8.4		Yes		0.903	2.26	ng/L	8.4	7.5	ng/L	
Experiment D	D2	MF01	MF1-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	52.3	N	Yes		0.415	1.30	ng/g	52	52	ng/g	
Experiment D	D2	MF01	MF1-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	3.3		Yes		0.9	2.8	ng/g	3.3	1.5	ng/g	
Experiment D	D2	MF01	DGT 1-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.1	J, U	No	Yes	0.100	0.249	ng/L	0.00046	0.0000091	ng/cm^2	
Experiment D	D2	MF01	MF1-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	THg	13400		Yes		2.46	9.82	ng/L	13000	11000	ng/L	
Experiment D	D2	MF01	MF1-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	THg	1100000		Yes		348	1160	ng/g	1100000	1100000	ng/g	
Experiment D	D2	MF01	MF1-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	581		Yes		0.12	0.39	ng/g	580	520	ng/g	
Experiment D	D2	MF01	DGT 1-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	12600		Yes	Yes	55.6	222	ng/L	37	37	ng/cm^2	
Experiment D	D2	MF01	MF1-Day 14-081914-TOC	14	NA	8/17/2014	N	DGT	NA	TOC	19.2		Yes	Yes		0.05		19	19	%	
Experiment D	D2	MF02	MF2-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	3.7		Yes		0.9	2.7	ng/g	3.7	1.9	ng/g	
Experiment D	D2	MF02	DGT 2-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.1	J, U	No	Yes	0.100	0.249	ng/L	0.00046	0.0000091	ng/cm^2	
Experiment D	D2	MF02	MF2-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	32.8		Yes		0.11	0.38	ng/g	33	-33	ng/g	
Experiment D	D2	MF02	DGT 2-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	21100		Yes	Yes	55.6	222	ng/L	63	63	ng/cm^2	
Experiment D	D2	MF02	MF4-Day 14-081914-TOC	14	NA	8/17/2014	N	DGT	NA	TOC	18.5		Yes	Yes		0.05		19	19	%	
Experiment D	D2	MF03	MF3-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	1.1	B	Yes		0.9	2.8	ng/g	1.1	-0.67	ng/g	
Experiment D	D2	MF03	DGT 3-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.249	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF03	MF3-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	107		Yes		0.12	0.39	ng/g	110	42	ng/g	
Experiment D	D2	MF03	DGT 3-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	17300		Yes	Yes	55.6	222	ng/L	51	51	ng/cm^2	
Experiment D	D2	MF04	MF4-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	%TS	26.21		Yes		0.30	1.00	%	26	26	%	
Experiment D	D2	MF04	MF4-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	9.21		Yes		0.913	2.28	ng/L	9.3	8.3	ng/L	
Experiment D	D2	MF04	MF4-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	277		Yes		0.348	1.09	ng/g	280	280	ng/g	
Experiment D	D2	MF04	MF4-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	14.5		Yes		0.9	2.8	ng/g	15	13	ng/g	
Experiment D	D2	MF04	DGT 4-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.1	J, U	No	Yes	0.100	0.249	ng/L	0.00046	0.0000091	ng/cm^2	
Experiment D	D2	MF04	MF4-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	THg	5320		Yes		2.32	9.27	ng/L	5300	2700	ng/L	
Experiment D	D2	MF04	MF4-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	THg	769000		Yes		272	908	ng/g	770000	770000	ng/g	
Experiment D	D2	MF04	MF4-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	753		Yes		0.13	0.42	ng/g	750	690	ng/g	
Experiment D	D2	MF04	DGT 4-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	437		Yes	Yes	55.6	222	ng/L	1.3	1.3	ng/cm^2	
Experiment D	D2	MF05	MF5-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	4	N	Yes		1.0	2.9	ng/g	4	2.2	ng/g	
Experiment D	D2	MF05	DGT 5-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.111	J, B	Yes	Yes	0.099	0.248	ng/L	0.00051	0.000059	ng/cm^2	
Experiment D	D2	MF05	MF5-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	171		Yes		0.11	0.37	ng/g	170	110	ng/g	
Experiment D	D2	MF05	DGT 5-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	7410		Yes	Yes	55.6	222	ng/L	22	22	ng/cm^2	
Experiment D	D2	MF06	MF6-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	2.4	B	Yes		1.0	2.9	ng/g	2.4	0.63	ng/g	
Experiment D	D2	MF06	DGT 6-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.246	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF06	MF6-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	94.9		Yes		0.12	0.40	ng/g	95	30	ng/g	
Experiment D	D2	MF06	DGT 6-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	17800		Yes	Yes	55.6	222	ng/L	53	53	ng/cm^2	
Experiment D	D2	MF07	MF7-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	%TS	19.02		Yes		0.30	1.00	%	19	19	%	
Experiment D	D2	MF07	MF7-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	5.29		Yes		0.879	2.20	ng/L	5.3	4.4	ng/L	
Experiment D	D2	MF07	MF7-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	42.2		Yes	Yes	0.442	1.38	ng/g	42	42	ng/g	
Experiment D	D2	MF07	MF7-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	3.7		Yes	Yes	0.9	2.6	ng/g	3.7	1.9	ng/g	
Experiment D	D2	MF07	DGT 7-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.248	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF07	MF7-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	THg	3560		Yes		2.32	9.27	ng/L	3600	930	ng/L	
Experiment D	D2	MF07	MF7-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	THg	1180000		Yes		347	1160	ng/g	1200000	1200000	ng/g	
Experiment D	D2	MF07	MF7-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	377	M	Yes	Yes	2.23	7.45	ng/g	380	310	ng/g	
Experiment D	D2	MF07	DGT 7-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	4560		Yes	Yes	55.6	222	ng/L	14	14	ng/cm^2	
Experiment D	D2	MF07	MF7-Day 14-081914-TOC	14	NA	8/17/2014	N	DGT	NA	TOC	19.7		Yes	Yes		0.05		20	20	%	
Experiment D	D2	MF08	MF8-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	4.3		Yes	Yes	1.0	3.0	ng/g	4.3	2.5	ng/g	
Experiment D	D2	MF08	DGT 8-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.248	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF08	MF8-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	241		Yes	Yes	0.12	0.39	ng/g	240	180	ng/g	
Experiment D	D2	MF08	DGT 8-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	30600		Yes	Yes	55.6	222	ng/L	91	91	ng/cm^2	
Experiment D	D2	MF09	MF9-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	11.9		Yes	Yes	0.9	2.8	ng/g	12	10	ng/g	
Experiment D	D2	MF09	DGT 9-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.097	J, U	No	Yes	0.097	0.243	ng/L	0.00044	-0.0000046	ng/cm^2	
Experiment D	D2	MF09	MF9-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	235		Yes	Yes	0.12	0.39	ng/g	240	170	ng/g	
Experiment D	D2	MF09	DGT 9-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	29900		Yes	Yes	55.6	222	ng/L	89	89	ng/cm^2	
Experiment D	D2	MF10	MF10-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	2	B	Yes		1.0	2.9	ng/g	2	0.23	ng/g	
Experiment D	D2	MF10	DGT 10-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.248	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF10	MF10-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	46.2		Yes		0.11	0.36	ng/g	46	-19	ng/g	
Experiment D	D2	MF10	DGT 10-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	89700		Yes	Yes	55.6	222	ng/L	270	270	ng/cm^2	

Appendix A
Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment D	D2	MF11	MF11-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	%TS	17.71		Yes		0.30	1.00	%	18	18	%	
Experiment D	D2	MF11	MF11-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	5.35		Yes		0.860	2.15	ng/L	5.4	4.4	ng/L	
Experiment D	D2	MF11	MF11-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	232		Yes		0.480	1.50	ng/g	230	230	ng/g	
Experiment D	D2	MF11	MF11-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	7.2		Yes		0.9	2.8	ng/g	7.2	5.4	ng/g	
Experiment D	D2	MF11	DGT 11-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	31.5		Yes	Yes	0.151	0.377	ng/L	0.14	0.14	ng/cm^2	
Experiment D	D2	MF11	MF11-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	THg	4270		Yes		2.31	9.23	ng/L	4300	1600	ng/L	
Experiment D	D2	MF11	MF11-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	THg	160000		Yes		396	1320	ng/g	160000	160000	ng/g	
Experiment D	D2	MF11	MF11-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	213		Yes		0.12	0.39	ng/g	210	150	ng/g	
Experiment D	D2	MF11	DGT 11-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	5610		Yes	Yes	55.6	222	ng/L	17	17	ng/cm^2	
Experiment D	D2	MF11	MF11-Day 14-081914-TOC	14	NA	8/17/2014	N	DGT	NA	TOC	18.4		Yes	Yes		0.05		18	18	%	
Experiment D	D2	MF12	MF12-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	%TS	19.27		Yes		0.30	1.00	%	19	19	%	
Experiment D	D2	MF12	MF12-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	6.03		Yes		0.927	2.32	ng/L	6.1	5.1	ng/L	
Experiment D	D2	MF12	MF12-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	MeHg	146		Yes		0.449	1.40	ng/g	150	150	ng/g	
Experiment D	D2	MF12	MF12-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	7.5	M, N	Yes		0.9	2.6	ng/g	7.5	5.7	ng/g	
Experiment D	D2	MF12	DGT 12-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.098	J, U	No	Yes	0.098	0.246	ng/L	0.00045	0	ng/cm^2	
Experiment D	D2	MF12	MF12-Day 14-081914-PW	14	8/5/2014	8/19/2014	N	DGT	NA	THg	4940		Yes		2.55	10.2	ng/L	5000	2300	ng/L	
Experiment D	D2	MF12	MF12-Day 14-081914-Sed	14	8/5/2014	8/19/2014	N	DGT	NA	THg	484000		Yes		365	1220	ng/g	480000	480000	ng/g	
Experiment D	D2	MF12	MF12-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	441		Yes		0.12	0.39	ng/g	440	380	ng/g	
Experiment D	D2	MF12	DGT 12-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	19000		Yes	Yes	55.6	222	ng/L	56	56	ng/cm^2	
Experiment D	D2	MF12	MF12-Day 14-081914-TOC	14	NA	8/17/2014	N	DGT	NA	TOC	17.7		Yes	Yes		0.05		18	18	%	
Experiment D	D2	MF13	DGT 13-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.101	J, U	No	Yes	0.101	0.252	ng/L	0.00046	0.000014	ng/cm^2	
Experiment D	D2	MF13	DGT 13-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	18200		Yes	Yes	55.6	222	ng/L	54	54	ng/cm^2	
Experiment D	D2	MF14	MF14-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	2.5	B	Yes		0.9	2.8	ng/g	2.5	0.73	ng/g	
Experiment D	D2	MF14	DGT 14-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.248	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF14	MF14-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	288		Yes		0.11	0.36	ng/g	290	220	ng/g	
Experiment D	D2	MF14	DGT 14-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	52600		Yes	Yes	55.6	222	ng/L	160	160	ng/cm^2	
Experiment D	D2	MF15	MF15-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	MeHg	1.3	B	Yes		0.9	2.7	ng/g	1.3	-0.47	ng/g	
Experiment D	D2	MF15	DGT 15-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.247	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	MF15	MF15-Day 14-081914-TIS	14	8/5/2014	8/19/2014	N	DGT	*M. nasuta*	THg	106		Yes		0.12	0.40	ng/g	110	41	ng/g	
Experiment D	D2	MF15	DGT 15-Day14-080114	14	7/18/2014	8/1/2014	N	DGT	NA	THg	87200		Yes	Yes	55.6	222	ng/L	260	260	ng/cm^2	
Experiment D	D2	NA	TIS-Day 0-080614-A	0	NA	8/6/2014	B	DGT	*M. nasuta*	MeHg	1.4	B	Yes	Yes	0.9	2.6	ng/g	1.4	-0.37	ng/g	
Experiment D	D2	NA	TIS-Day 0-080614-B	0	NA	8/6/2014	B	DGT	*M. nasuta*	MeHg	2.5	B	Yes	Yes	0.9	2.7	ng/g	2.5	0.73	ng/g	
Experiment D	D2	NA	TIS-Day 0-080614-C	0	NA	8/6/2014	B	DGT	*M. nasuta*	MeHg	1.4	B	Yes	Yes	0.9	2.8	ng/g	1.4	-0.37	ng/g	
Experiment D	D2	NA	DGT-0-071814-A	0	NA	8/1/2014	B	DGT	NA	MeHg	0.098	J, U	No	Yes	0.098	0.245	ng/L	0.00045	0	ng/cm^2	
Experiment D	D2	NA	DGT-0-071814-B	0	NA	8/1/2014	B	DGT	NA	MeHg	0.097	J, U	No	Yes	0.097	0.244	ng/L	0.00044	-0.0000046	ng/cm^2	
Experiment D	D2	NA	DGT-0-071814-C	0	NA	8/1/2014	B	DGT	NA	MeHg	0.099	J, U	No	Yes	0.099	0.248	ng/L	0.00045	0.0000046	ng/cm^2	
Experiment D	D2	NA	TIS-Day 0-080614-A	0	NA	8/6/2014	B	DGT	*M. nasuta*	THg	44.5		Yes	Yes	0.11	0.36	ng/g	45	-21	ng/g	
Experiment D	D2	NA	TIS-Day 0-080614-B	0	NA	8/6/2014	B	DGT	*M. nasuta*	THg	83.7		Yes	Yes	0.12	0.39	ng/g	84	18	ng/g	
Experiment D	D2	NA	TIS-Day 0-080614-C	0	NA	8/6/2014	B	DGT	*M. nasuta*	THg	68		Yes	Yes	0.12	0.40	ng/g	68	2.6	ng/g	
Experiment D	D2	NA	DGT-0-071814-A	0	NA	8/1/2014	B	DGT	NA	THg	4.1		Yes	Yes	0.11	0.44	ng/L	0.012	0.0049	ng/cm^2	
Experiment D	D2	NA	DGT-0-071814-B	0	NA	8/1/2014	B	DGT	NA	THg	1.13		Yes	Yes	0.11	0.44	ng/L	0.0033	-0.0039	ng/cm^2	
Experiment D	D2	NA	DGT-0-071814-C	0	NA	8/1/2014	B	DGT	NA	THg	2.14		Yes	Yes	0.11	0.44	ng/L	0.0063	-0.00094	ng/cm^2	
Experiment D	D2	NA	MFB-Day 14-081914-PW	14	8/5/2014	8/19/2014	B	DGT	NA	MeHg	0.923	U	No	Yes	0.923	2.31	ng/L	0.93	0	ng/L	
Experiment D	D2	NA	MFB-Day 14-081914-PW	14	8/5/2014	8/19/2014	B	DGT	NA	THg	2630		Yes	Yes	1.15	4.61	ng/L	2600	0	ng/L	
Experiment D	D2 Screen	NA	NJS-A-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	MeHg	13.8		Yes	No	1.05	3.16	ng/g	14	-0.17	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NA	NJS-B-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	MeHg	13.8		Yes	No	0.93	2.79	ng/g	14	-0.17	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NA	NJS-C-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	MeHg	13.2		Yes	No	1.01	3.02	ng/g	13	-0.78	ng/g	Value not retained; high blank concentration

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Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Experiment D	D2 Screen	NA	NJS-D-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	MeHg	15.1		Yes	No	1.03	3.10	ng/g	15	1.1	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NA	NJS-A-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	THg	30.8		Yes	No	0.48	1.61	ng/g	31	-2.9	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NA	NJS-B-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	THg	46.5		Yes	No	0.12	0.40	ng/g	47	13	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NA	NJS-C-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	THg	28.9		Yes	No	0.13	0.42	ng/g	29	-4.8	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NA	NJS-D-00-TIS	0	NA	11/18/2013	B	TIS	*M. nasuta*	THg	28.6		Yes	No	0.25	0.85	ng/g	29	-5.1	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ mudflat A	PMF-A-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	MeHg	23.1		Yes	No	1.01	3.02	ng/g	23	9.1	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ mudflat A	PMF-A-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	THg	437		Yes	No	0.43	1.43	ng/g	440	400	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ mudflat B	PMF-B-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	MeHg	15.6		Yes	No	1.06	3.19	ng/g	16	1.6	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ mudflat B	PMF-B-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	THg	425		Yes	No	0.21	0.70	ng/g	430	390	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ saltmarsh A	PSM-A-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	MeHg	20.4		Yes	No	0.98	2.95	ng/g	20	6.4	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ saltmarsh A	PSM-A-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	THg	209		Yes	No	0.12	0.39	ng/g	210	180	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ saltmarsh B	PSM-B-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	MeHg	13.0		Yes	No	0.97	2.92	ng/g	13	-0.98	ng/g	Value not retained; high blank concentration
Experiment D	D2 Screen	NJ saltmarsh B	PSM-B-111513-TIS	14	11/4/2013	11/18/2013	N	TIS	*M. nasuta*	THg	148		Yes	No	0.29	0.98	ng/g	150	110	ng/g	Value not retained; high blank concentration
Field Deployment	NA	3-MM	PS1-03-1B	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.065	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	3-MM	PS1-03-1C	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.064	B	Yes	Yes	0.026	0.065	ng/L	0.00029	0.00017	ng/cm^2	
Field Deployment	NA	3-MM	PS1-03-1C	14	7/1/2014	7/15/2014	N	DGT	NA	THg	10.2		Yes	Yes	0.56	2.22	ng/L	0.03	0.029	ng/cm^2	
Field Deployment	NA	3-MM	B22 3 MM	14	NA	7/16/2014	N	SED	NA	MeHg	2.1		Yes	Yes		0.26	ng/g	2.1	2.1	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	3-MM	B22 3 MM	14	NA	7/16/2014	N	SED	NA	THg	97		Yes	Yes		10	ng/g	97	97	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	3-MM	SR B22 3MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	MeHg	ND	H	No	Yes	0.23	0.43	ng/g	ND	ND	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	3-MM	SR B22 3MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	THg	7.6		Yes	Yes		2.1	ng/g	7.6	7.6	ng/g	Data provided by SERDP project ER-201131

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Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Field Deployment	NA	4-MM	PS1-04-1B	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.049	B	Yes	Yes	0.027	0.068	ng/L	0.00022	0.0001	ng/cm^2	
Field Deployment	NA	4-MM	PS1-04-1C	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.028	U	No	Yes	0.028	0.069	ng/L	0.00013	0.000011	ng/cm^2	
Field Deployment	NA	4-MM	PS1-04-1B	14	7/1/2014	7/15/2014	N	DGT	NA	THg	5.41		Yes	Yes	1.50	4.44	ng/L	0.016	0.015	ng/cm^2	
Field Deployment	NA	4-MM	PS1-04-1C	14	7/1/2014	7/15/2014	N	DGT	NA	THg	5.19		Yes	Yes	1.50	4.44	ng/L	0.015	0.014	ng/cm^2	
Field Deployment	NA	4-MM	B22 4 MM	14	NA	7/15/2014	N	SED	NA	MeHg	0.82		Yes	Yes		0.27	ng/g	0.82	0.82	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	4-MM	B22 4 MM	14	NA	7/15/2014	N	SED	NA	THg	84		Yes	Yes		9.7	ng/g	84	84	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	4-MM	SR B22 4MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	MeHg	1.446185437	H	Yes	Yes	0.24	0.43	ng/g	1.4	1.4	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	4-MM	SR B22 4 NC	14	7/1/2014	7/15/2014	N	TIS	*N. arenaceodentata*	MeHg	ND	H	No	Yes	0.21	0.39	ng/g	ND	ND	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	4-MM	SR B22 4MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	THg	9.4		Yes	Yes		4	ng/g	9.4	9.4	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	4-MM	SR B22 4 NC	14	7/1/2014	7/15/2014	N	TIS	*N. arenaceodentata*	THg	5		Yes	Yes		4.2	ng/g	5	5	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	5-MM	PS1-05-1A	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.039	B	Yes	Yes	0.027	0.067	ng/L	0.00018	0.000061	ng/cm^2	
Field Deployment	NA	5-MM	PS1-05-1B	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.050	B	Yes	Yes	0.026	0.065	ng/L	0.00023	0.00011	ng/cm^2	
Field Deployment	NA	5-MM	PS1-05-1C	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.028	U	No	Yes	0.028	0.069	ng/L	0.00013	0.000011	ng/cm^2	
Field Deployment	NA	5-MM	PS1-05-1A	14	7/1/2014	7/15/2014	N	DGT	NA	THg	2.70		Yes	Yes	0.11	0.44	ng/L	0.008	0.0071	ng/cm^2	
Field Deployment	NA	5-MM	PS1-05-1B	14	7/1/2014	7/15/2014	N	DGT	NA	THg	3.55		Yes	Yes	0.11	0.44	ng/L	0.011	0.01	ng/cm^2	
Field Deployment	NA	5-MM	PS1-05-1C	14	7/1/2014	7/15/2014	N	DGT	NA	THg	4.71		Yes	Yes	1.50	4.44	ng/L	0.014	0.013	ng/cm^2	
Field Deployment	NA	5-MM	B22 5 MM	14	NA	7/15/2014	N	SED	NA	MeHg	0.98		Yes	Yes		0.29	ng/g	0.98	0.98	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	5-MM	B22 5 MM	14	NA	7/15/2014	N	SED	NA	THg	48		Yes	Yes		10	ng/g	48	48	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	5-MM	SR B22 5 MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	MeHg	2.40274833	H	Yes	Yes	0.23	0.43	ng/g	2.40274833	2.40274833	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	5-MM	SR B22 5 Nc	14	7/1/2014	7/15/2014	N	TIS	*N. arenaceodentata*	MeHg	ND	H	No	Yes	0.23	0.42	ng/g	ND	ND	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	5-MM	SR B22 5 MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	THg	14		Yes	Yes		3.9	ng/g	14	14	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	5-MM	SR B22 5 Nc	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	THg	2.2		Yes	Yes		1.9	ng/g	2.2	2.2	ng/g	Data provided by SERDP project ER-201131

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Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Field Deployment	NA	6-MM	SR B22 6 MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	MeHg	0.818721094	H	Yes	Yes	0.23	0.42	ng/g	0.82	0.82	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	6-MM	SR B22 6 MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	THg	13		Yes	Yes		3.9	ng/g	13	13	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	8-MM	PS1-08-1A	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.065	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	8-MM	PS1-08-1B	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.064	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	8-MM	PS1-08-1C	14	7/1/2014	7/15/2014	N	DGT	NA	MeHg	0.028	U	No	Yes	0.028	0.071	ng/L	0.00013	0.000011	ng/cm^2	
Field Deployment	NA	8-MM	PS1-08-1A	14	7/1/2014	7/15/2014	N	DGT	NA	THg	4.68		Yes	Yes	0.11	0.44	ng/L	0.014	0.013	ng/cm^2	
Field Deployment	NA	8-MM	PS1-08-1B	14	7/1/2014	7/15/2014	N	DGT	NA	THg	11.7		Yes	Yes	1.50	4.44	ng/L	0.035	0.034	ng/cm^2	
Field Deployment	NA	8-MM	PS1-08-1C	14	7/1/2014	7/15/2014	N	DGT	NA	THg	10.1		Yes	Yes	0.56	2.22	ng/L	0.03	0.029	ng/cm^2	
Field Deployment	NA	8-MM	B22 8 MM	14	NA	7/15/2014	N	SED	NA	MeHg	0.95		Yes	Yes		0.29	ng/g	0.95	0.95	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	8-MM	B22 8 MM	14	NA	7/15/2014	N	SED	NA	THg	10		Yes	Yes		9.8	ng/g	10	10	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	8-MM	SR B22 8 MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	MeHg	4.094656102	H	Yes	Yes	0.23	0.42	ng/g	4.094656102	4.094656102	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	8-MM	SR B22 8 NC	14	7/1/2014	7/15/2014	N	TIS	*N. arenaceodentata*	MeHg	0.775581359	H	Yes	Yes	0.28	0.52	ng/g	0.775581359	0.775581359	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	8-MM	SR B22 8 MN	14	7/1/2014	7/15/2014	N	TIS	*M. nasuta*	THg	17		Yes	Yes		3.9	ng/g	17	17	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	8-MM	SR B22 8 NC	14	7/1/2014	7/15/2014	N	TIS	*N. arenaceodentata*	THg	ND		No	Yes		4	ng/g	ND	ND	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	9-MM	PS1-09-1A	14	7/2/2014	7/16/2014	N	DGT	NA	MeHg	0.054	B	Yes	Yes	0.026	0.066	ng/L	0.00025	0.00013	ng/cm^2	
Field Deployment	NA	9-MM	PS1-09-1B	14	7/2/2014	7/16/2014	N	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.066	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	9-MM	PS1-09-1C	14	7/2/2014	7/16/2014	N	DGT	NA	MeHg	0.027	U	No	Yes	0.027	0.068	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	9-MM	PS1-09-1B	14	7/2/2014	7/16/2014	N	DGT	NA	THg	0.11	U	No	Yes	0.11	0.44	ng/L	0.00033	-0.00056	ng/cm^2	
Field Deployment	NA	9-MM	PS1-09-1C	14	7/2/2014	7/16/2014	N	DGT	NA	THg	1.83		Yes	Yes	0.11	0.44	ng/L	0.0054	0.0045	ng/cm^2	
Field Deployment	NA	9-MM	B22 9 MM	14	NA	7/16/2014	N	SED	NA	MeHg	0.74		Yes	Yes		0.28	ng/g	0.74	0.74	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	9-MM	B22 9 MM	14	NA	7/16/2014	N	SED	NA	THg	110		Yes	Yes		20	ng/g	110	110	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	9-MM	SR B22 9MN	14	7/2/2014	7/16/2014	N	TIS	*M. nasuta*	MeHg	2.414519058	H	Yes	Yes	0.24	0.43	ng/g	2.4	2.4	ng/g	Data provided by SERDP project ER-201131

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Table A1. Analytical Results

Experiment	Series	Exposure Vessel/ Location ID	Sample ID	Experimental Day	Deployment Date	Collection Date	Sample Type	Matrix	Species	Analyte	Lab Result	Qualifier	Detected	Retain Result	MDL	MRL	Lab Unit	Adjusted Result	Adjusted Result, Blank Corrected	Adjusted Unit	Comment
Field Deployment	NA	9-MM	SR B22 9 NC	14	7/2/2014	7/16/2014	N	TIS	*N. arenaceodentata*	MeHg	0.244076718	H	Yes	Yes	0.1	0.19	ng/g	0.2	0.2	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	9-MM	SR B22 9MN	14	7/2/2014	7/16/2014	N	TIS	*M. nasuta*	THg	20		Yes	Yes		3.9	ng/g	20	20	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	9-MM	SR B22 9 NC	14	7/2/2014	7/16/2014	N	TIS	*N. arenaceodentata*	THg	ND		No	Yes		2.8	ng/g	ND	ND	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	NA	PS1-BK-1C	0	NA	7/2/2014	B	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.065	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	NA	PS1-BK-1A	0	NA	7/2/2014	B	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.066	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	NA	PS1-BK-1B	0	NA	7/2/2014	B	DGT	NA	MeHg	0.026	U	No	Yes	0.026	0.065	ng/L	0.00012	0.0000015	ng/cm^2	
Field Deployment	NA	NA	PS1-BK-1C	0	NA	7/2/2014	B	DGT	NA	THg	0.30	U	No	Yes	0.30	0.89	ng/L	0.00089	0.0000011	ng/cm^2	
Field Deployment	NA	NA	PS1-BK-1A	0	NA	7/2/2014	B	DGT	NA	THg	0.30	U	No	Yes	0.30	0.89	ng/L	0.00089	0.0000011	ng/cm^2	
Field Deployment	NA	NA	PS1-BK-1B	0	NA	7/2/2014	B	DGT	NA	THg	0.30	U	No	Yes	0.30	0.89	ng/L	0.00089	0.0000011	ng/cm^2	
Field Deployment	NA	NA	T0 B22 1 MN	0	NA	7/1/2014	B	TIS	*M. nasuta*	MeHg	3.822897897	H	Yes	Yes	0.46	0.85	ng/g	3.82	3.82	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	NA	T0 B22 1 NC	0	NA	7/1/2014	B	TIS	*N. arenaceodentata*	MeHg	3.907691342	H	Yes	Yes	0.78	1.5	ng/g	3.91	3.91	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	NA	T0 B22 1 MN	0	NA	7/1/2014	B	TIS	*M. nasuta*	THg	11		Yes	Yes		8.1	ng/g	11	11	ng/g	Data provided by SERDP project ER-201131
Field Deployment	NA	NA	T0 B22 1 NC	0	NA	7/1/2014	B	TIS	*N. arenaceodentata*	THg	2.4		Yes	Yes		2	ng/g	2.4	2.4	ng/g	Data provided by SERDP project ER-201131

Appendix A

Table A2. Descriptions and Definitions for Table A1

Field	Description	Abbreviation	Definition
Experiment	Experiment identifier for SERDP Project ER-1771. See Sections 3.3 and 3.4 of the main report for details on each experiment.	--	--
Series	Series that fall under each experiment. See Section 3.3 of the main report for details on each series.	NA	Not applicable
Exposure Vessel/ Location ID	Exposure vessel (for laboratory time series experiments) or location (for laboratory core experiments and field experiment) identifier for comparing analytical results for a single vessel or location.	NA	Not applicable
Sample ID	Sample identifier.	--	--
Experimental Day	Day of experiment that the sample was collected.	--	--
Deployment Date	Date sample was deployed in sedimen. Only applicable to DGT and TIS samples.	NA	Not applicable (sample is either a DGT or TIS blank sample that was not depolyed, a SED sample, or a POR sample)
Collection Date	Date sample was collected	--	--
Sample Type	Type of sample	N	Sample exposed to or collected from experimental
		B	Blank sample
Matrix	Sample matrix	DGT	Diffusive gradient in thin film device
		POR	Porewater
		SED	Sediment
		TIS	Biological tissue
Species	Biological tissue species	NA	Not applicable (DGT, POR, or SED sample)
Analyte	Chemical or physical parameter that was analyzed	MeHg	Methylmercury
		THg	Total mercury
		AVS	Acid volatile sulfides
		%LOI	Percent loss on ignition
		TOC	Total organic carbon
		%TS	Percent total solids
Lab Result	Result provided by the analytical laboratory	ND	Not detected (only indicated for data provided by SERDP project ER-201131)
Qualifier	Laboratory data qualifier	U	Result is ≤ the MDL or client requested reporting limit (CRRL). Result reported as the MDL or CRRL.
		B	Detected by the instrument, the result is > the MDL but ≤ the MRL. Result is reported and considered an estimate.

Appendix A
Table A2. Descriptions and Definitions for Table A1

Field	Description	Abbreviation	Definition
		J	Estimated value. A full explanation is presented in the laboratory report narrative.
		M	Duplicate precision (RPD) was not within acceptance criteria. Result is estimated.
		H	Holding time and/or preservation requirements not met. Result is estimated.
		N	Spike recovery was not within acceptance criteria. Result is estimated.
Detected	Indicates if analytical result is above or below the detection limit.	--	--
Retain Result	Indicates if analytical result was used in further analysis. See Comment field for explanation of results that were not retained.	--	--
MDL	Method detection limit	--	--
MRL	Method reporting limit	--	--
Lab Unit	Result unit reported by laboratory	%	Percent
		µmol/g	micromole(s) per gram
		mg/L	milligram(s) per liter
		ng/g	nanogram(s) per gram
		ng/L	nanogram(s) per liter
Adjusted Result	Result are converted to standardized units. For DGT only, results were converted to a per square centimeter basis using sample-specific extraction volume and exposed DGT surface area.	ND	Not detected (only indicated for data provided by SERDP project ER-201131)
Adjusted Result, Blank Corrected	POR, DGT, and TIS adjusted result is blank corrected based on experiment-specific blanks concentrations. Value is negative if blank concentration is greater than the adjusted result.	ND	Not detected (only indicated for data provided by SERDP project ER-201131)
Adjusted Result	Standarized units applicable to Adjusted Result and Adjusted Result, Blank Corrected.	ng/cm^2	nanogram(s) per square centimeter
		ng/L	nanogram(s) per liter
		%	percent
		ng/g	nanogram(s) per gram
		µmol/g	micromole(s) per gram
		mg/L	milligram(s) per liter
Comment	Provides result-specific comment.	--	--

Appendix B. List of Scientific/Technical Publications

Articles in Peer-Reviewed Journals

Amirbahman A, Massey DI, Lotufo G, Steenhaut N, Brown LE, Biedenbach JM, Magar VS. 2013. Assessment of mercury bioavailability to benthic macroinvertebrates using diffusive gradients in thin films (DGT). Environ Sci: Processes Impacts 15: 2104-2114. [in print]

Conference Abstracts

Brown, L., N. Steenhaut, A. Amirbahman, G. Lotufo, and V. Magar. 2015. Assessing Mercury and Methylmercury Bioavailability in Sediment Using Mercury-Specific DGTs. Battelle. The Eighth International Conference on Remediation and Management of Contaminated Sediments. New Orleans, Louisiana. January 12-15. Poster.

Brown, L., N. Steenhaut, A. Amirbahman, D. Massey, G. Lotufo, and V. Magar. 2013. Development of a Mercury-Specific Hydrogel for the Assessment of Bioavailable Mercury and Methylmercury in Sediment. SETAC North America 34th Annual Meeting, November 17-21, 2013, Nashville, TN, USA.

Steenhaut, N., A. Amirbahman, D. Massey, G. Lotufo, L. Brown, V. Magar, and R. Wenning. 2013. Assessing Mercury and Methylmercury Bioavailability in Sediment Using Mercury-Specific DGTs. SedNet Conference, November 6-9, 2013, Lisbon, Portugal.

Goldsworthy, P. 2013. Assessing Mercury and Methyl Mercury Bioavailability in Sediment Using Mercury-Specific DGTs. CleanUp 2013, The 5th International Contaminated Site Remediation Conference, September 15-18, 2013, Victoria, Australia.

Steenhaut, N. 2013. Assessing Mercury and Methylmercury Bioavailability in Sediment Using Mercury-Specific Hydrogels. 11th International Conference on Mercury as a Global Pollutant, July 29-August 2, 2013, Edinburgh, Scotland.

Steenhaut, N., A. Amirbahman, D. Massey, G. Lotufo, L. Brown, and V. Magar. 2013. Assessing Mercury and Methylmercury Bioavailability in Sediment Porewater Using Mercury-Specific Hydrogels. Seventh International Conference on Remediation of Contaminated Sediments (Battelle), February 4-7, 2013, Dallas, TX, USA.

Massey, D., A. Amirbahman, G. Lotufo, N. Steenhaut, and L. Brown. 2013. Use of Diffusive Gradients in Thin Films (DGT) as an Assessment Tool for Bioavailability of Mercury Species in Sediment. Platform presentation at Battelle's Seventh International Conference on Remediation of Contaminated Sediments. February 4-7, Dallas, Texas.

Massey, D., A. Amirbahman, G. Lotufo, N. Steenhaut, and L. Brown. 2012. Assessment of Mercury Bioavailability in Sediment Using Diffusive Gradients in Thin Films (DGT). BIOGEOMON, July 16, 2012, Northport, ME, USA.

Amirbahman, A., V. Magar, G. Lotufo, L. Brown, D. Massey, and A. Lewis. 2011. Assessing Mercury and Methylmercury Bioavailability in Sediment Porewater using Mercury-Specific Hydrogels. Partners in Environmental Technology Technical Symposium & Workshop, November 29-December 1, 2011, Washington, DC, USA.

Merritt, K.A., A. Amirbahman, V. Magar, G. Lotufo, L. Brown, and D. Massey. 2010. Assessing Mercury and Methylmercury Bioavailability in Sediment Porewater using Mercury-Specific Hydrogels. Partners in Environmental Technology Technical Symposium & Workshop, November 30-December 2, 2010, Washington, DC, USA.

Appendix C. Other Supporting Materials

Appendix C.1. DGT Synthesis, Assembly, and Deployment Procedures

C.1.1. Diffusive Gel Synthesis

The following procedure describes diffusive gel synthesis for DGTs.

Reagents

Agarose, 0.34 g [Sigma A9529-50G]
Milli-Q® water
Sodium nitrate ($NaNO_3$), 0.1 M [Fisher Scientific S343-500]

Equipment

Magnetic stirrer/hot plate
400-mL beaker for boiling water bath
Tub for cool water bath
Vortex
Stir bar
100-mL glass vial with cap
10-mL pipette and pipet tips
Casting assembly (Two 9” x 5” x 3/8” glass plates, 0.75-mm styrene spacer, six binder clips)
Gel cutter (6x9 cm for paddle or 2.5 cm-diameter for piston)
Storage container

Procedure

1. Wash casting assembly, beaker, tub, glass vial, stir bar, gel cutter, and storage container with warm, soapy water. Rinse with tap water followed by Milli-Q® water, acid bath wash, and 6x Milli-Q® water rinse
2. Heat casting assembly for 45 minutes at 50°C
3. Weigh 0.34 g agarose into the vial
4. Place stir bar in vial. Add 22.5 mL Milli-Q® water to the vial by pipette. Cap and vortex for 20 seconds
5. Clamp vial in boiling Milli-Q® water bath and turn on stirrer
6. Heat for 10 minutes, vortexing twice (after 5 minutes and after 10 minutes) for 20 seconds
7. During the heating process, assemble the casting assembly by placing the styrene spacer between the two glass plates and clamping on three sides with the binder clips. Make a slight offset in the plates, forming a lip, to aid in gel injection
8. Clamp the vial back in the water bath and remove the cap

9. Inject the gel smoothly (and quickly) into both halves of the casting assembly with a pipette, letting air bubbles rise to the top of the casting assembly after injection.
10. Lay the assembly flat and allow to cool for 45 minutes
11. Remove clamps and place assembly in cool Milli-Q® water bath for 1 minute
12. Separate the top and bottom plates by sliding 2 pieces of styrene between the plates at the edges to apply torque
13. Place the bottom plate with gels into the water bath for 1 minute to hydrate the gels
14. Remove plate with gels from water bath and cut each gel with a cutter (a maximum of 1 per gel)
15. Soak gel in Milli-Q® water in a storage container for 24 hours, changing the Milli-Q® water 3 times throughout the period
16. Following the Milli-Q® water soak, store gels in 0.1 M $NaNO_3$ in the storage container for at least 24 hours prior to DGT assembly.

C.1.2. Resin Gel Synthesis

The following procedure describes resin gel synthesis for DGTs.

Reagents

Agarose, 0.18 g [Sigma A9529-50G]
3-Mercaptopropyl-functionalized silica gel, 1.68 g [Aldrich 538086-100G]
Milli-Q® water
Sodium nitrate ($NaNO_3$), 0.1 M [Fisher Scientific S343-500]

Equipment

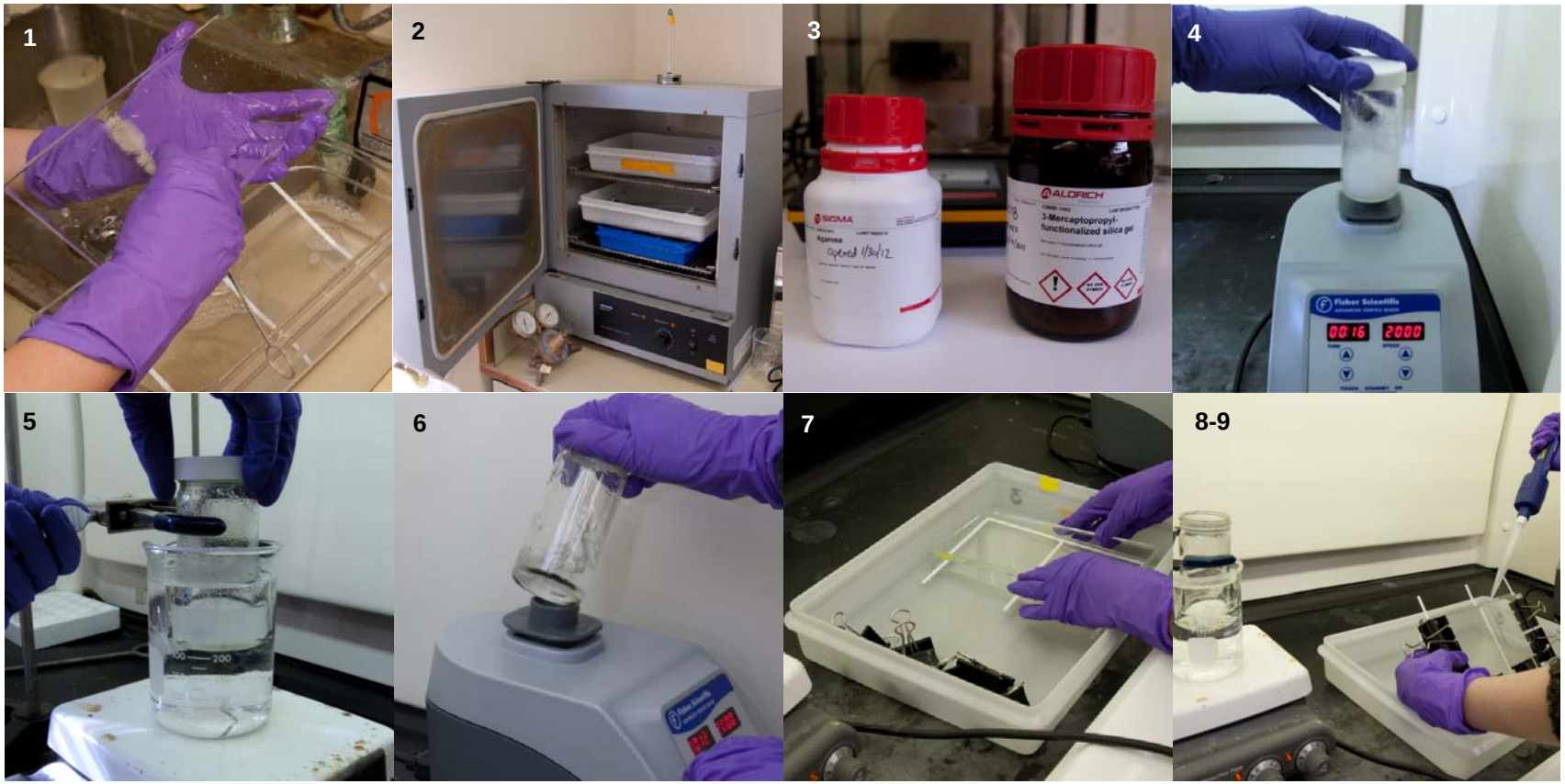
Magnetic stirrer/hot plate
400-mL beaker for boiling water bath
Tub for cool water bath
Vortex
Stir bar
20-mL glass scintillation vial with cap
10-mL pipette and pipet tips
Casting assembly (Two 9” x 5” x 3/8” glass plates, 0.4-mm styrene spacer, six binder clips)
Gel cutter (3x9 cm for paddle or 2.5 cm-diameter for piston)
Storage container

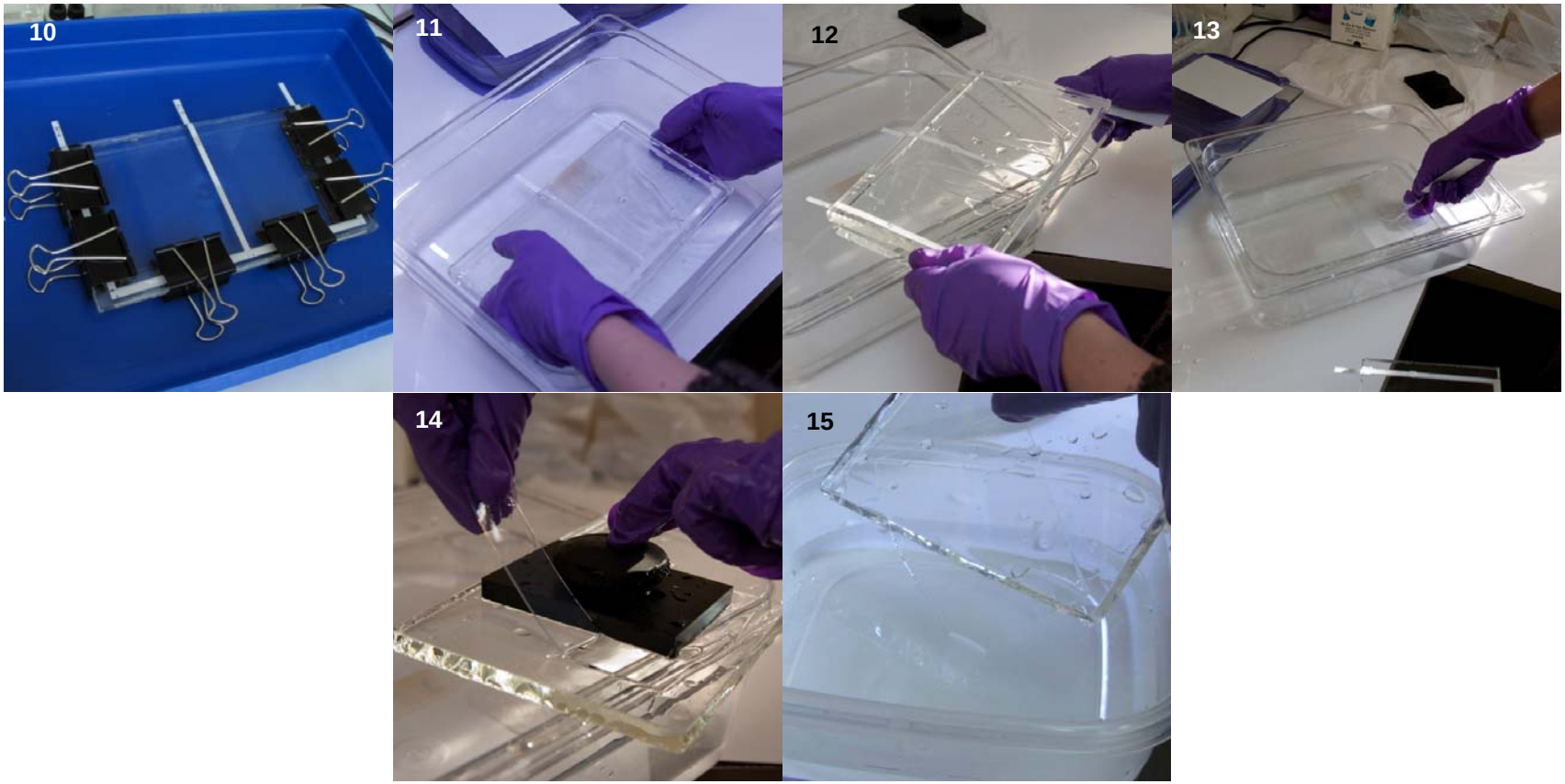
Procedure

1. Wash casting assembly, beaker, tub, glass vial, stir bar, gel cutter, and storage container with warm, soapy water. Rinse with tap water followed by Milli-Q® water, acid bath wash, and 6x Milli-Q® water rinse
2. Heat casting assembly for 45 minutes at 50°C
3. Weigh 0.18 g agarose and 1.68 g 3-mercapto functionalized silica gel into the vial
4. Place stir bar in vial. Add 12 mL Milli-Q® water to the vial by pipette. Cap and vortex for 20 seconds.
5. Clamp vial in boiling Milli-Q® water bath and turn on stirrer
6. Heat for 10 minutes, vortexing twice (after 5 minutes and after 10 minutes) for 20 seconds
7. During the heating process, assemble the casting assembly, with a slight offset in the plates, forming a lip, to aid in gel injection
8. Clamp the vial into the water bath and remove the cap
9. Inject the gel smoothly and as quickly as possible into the casting assembly with a pipette. This works best by holding the casting assembly at a low angle and not moving the pipet when injecting into each half.
10. Lay the assembly flat and allow to cool for 45 minutes
11. Remove clamps and place assembly in cool Milli-Q® water bath for 1 minute

12. Separate the top and bottom plates by sliding 2 pieces of styrene between the plates at the edges to apply torque
13. Place the bottom plate with gels into the water bath for 1 minute to hydrate the gels
14. Remove plate with gels from water bath and cut each gel with a cutter (a maximum of 3 per gel)
15. Soak gel in Milli-Q® water in a storage container in a refrigerator for 24 hours, changing the Milli-Q® water 3 times throughout the period
16. Following the Milli-Q® water soak, store gels in 0.1 M $NaNO_3$ in the storage container in a refrigerator for at least 24 hours prior to DGT assembly.

Gel Synthesis

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C.1.3. DGT Assembly

The following procedure describes DGT assembly

Reagents

Aqua regia, 2%
Milli-Q® water
Sodium nitrate ($NaNO_3$), 0.1 M [Fisher Scientific S343-500]

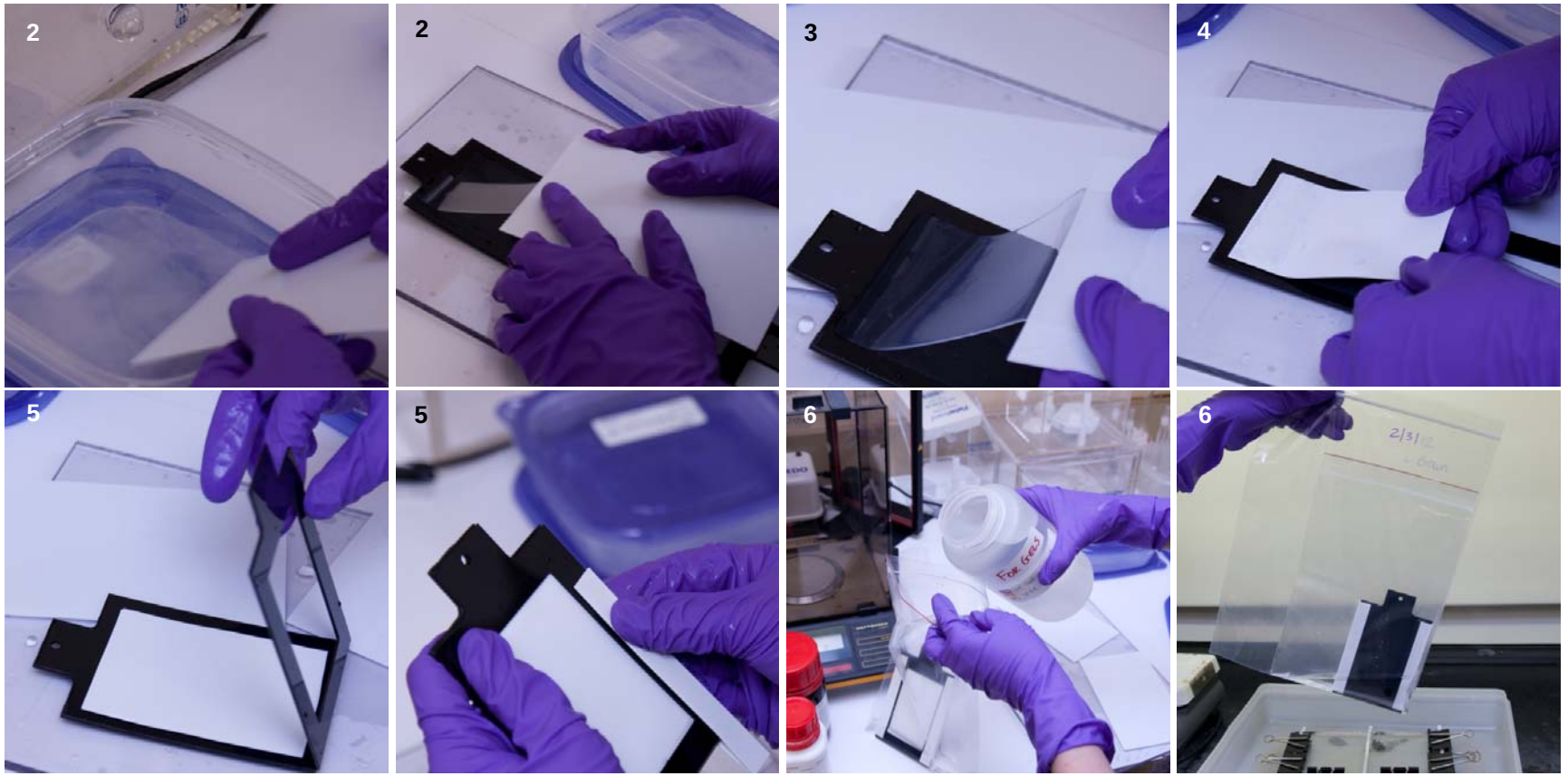
Equipment

DGT frame (Delrin® paddle with 2 report cover fasteners or piston)
Cut resin gel (2-3x9 cm gels for paddle or 1-2.5 cm-diameter gel for piston)
Cut diffusive gel (1-6x9 cm gel for paddle or 1-2.5 cm-diameter gel for piston)
0.45 µm polysulfone membrane (Tuffryn HT-450) (cut to 6x9 cm for paddle or 2.5 cm-diameter for piston)
Polystyrene

Procedure

1. Rinse DGT frames with Milli-Q® water followed by 1x aqua regia and 6x Milli-Q® water.
2. Remove a resin gel from its storage container using polystyrene as a spatula. Carefully place the resin gel in the piston frame or on half of the paddle frame. Repeat with the second resin gel for the paddle.
3. Remove a diffusive gel from its storage container using polystyrene as a spatula. Carefully place the diffusive gel on the resin gel.
4. Place a polysulfone membrane on the diffusive gel.
5. Secure the DGT by snapping the piston cover plate in place or closing the paddle cover plate and sliding the report cover fasteners into place.
6. Store the assembled DGT in two zip-top bags with 0.1 M $NaNO_3$ in a refrigerator until deployment.

DGT Assembly (paddle assembly is shown)



Piston DGT Materials



C.1.4. Sediment Deployment of DGTs

The following procedure describes deployment of DGTs in sediment.

Reagents

Sodium nitrate ($NaNO_3$), 0.1 M [Fisher Scientific S343-500]
Nitrogen gas, grade 5
Dry Ice

Equipment

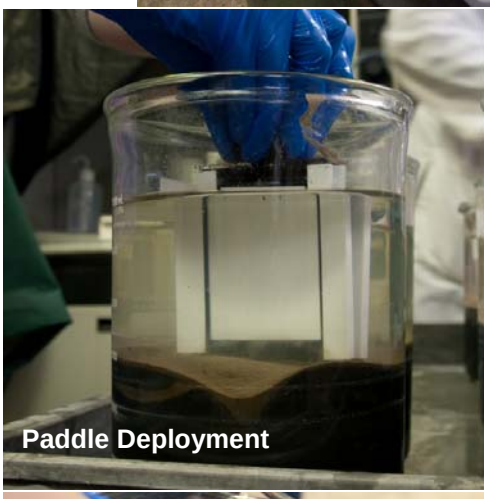
Assembled DGTs
Deoxygenation vessels (US Plastics, Cat #: 66188, 32 oz HDPE Square Jar) with 2 holes drilled in each cover (1/8" holes, 89 mm PP cap)
Tubing (Thermo Scientific Nalgene 890 Tubing, Teflon FEP, ID: 1/16", OD: 1/8" [Fisher Scientific 8050-0125])
Sparger filled with Milli-Q® water
Multi-tube flow meter
Gas regulator with tubing to connect to sparger
Gold trap
Electronic flow meter
Zip-top bags
Styrofoam shipping container

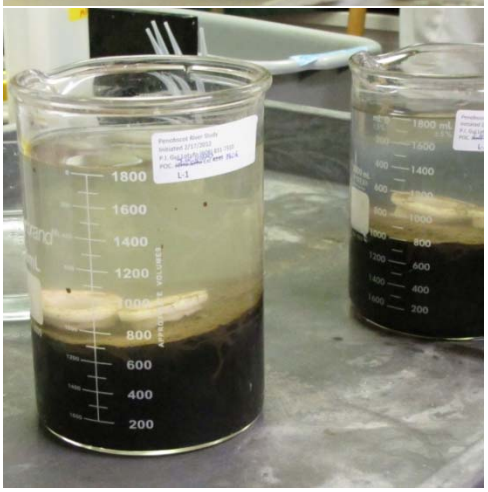
Procedure

1. Prior to sediment deployment, deoxygenate assembled DGT paddles and pistons in 0.1 M $NaNO_3$ for 48 hours using grade 5 nitrogen gas.
    a. Set up the bubbling system in the following order: nitrogen tank, regulator, gold trap, sparger, multi-tube flow meter, deoxygenation vessels.
    b. Deoxygenation vessels should be set up in series (2 vessels can be in each series, connected by 1/8" outer-diameter tubing)
    c. Occasionally test the flow output from vessels with the electronic flow meter to maintain a flow rate of 150 mL/min. Flow rate can be adjusted with the multi-tube flow meter.
2. After 48 hours, continue with deoxygenation and remove DGT from the deoxygenation vessel immediately before deployment.
3. Insert DGT paddle into the sediment to the top of the DGT window with minimal disturbance. Place DGT piston on the sediment surface, ensuring that the filter paper is in contact with the sediment.
4. Following the deployment interval, remove DGT from sediment and rinse with Milli-Q® water.
5. Place the DGT in a zip-top bag labeled with the Sample ID. Place the bagged DGT in two outer bags (multiple DGTs may go in the same outer bags).
6. Store in a freezer until shipment.

7. Ship in a Styrofoam container with dry ice to ensure that the DGT will stay frozen.

Sediment Deployment of DGTs





Appendix C.2. Sediment Collection and Processing Procedures for Time Series Experiments

The following procedure describes sediment collection and processing for time series experiments.

Reagents

Activated carbon amendment (non-potable non-food grade mixed coal/coconut powder by Siemens)
Reconstituted seawater (Crystal Sea® Marinemix)
Reconstituted freshwater or dechlorinated tap water
Milli-Q® water
Hydrochloric acid (HCl), trace metal grade
Sulfuric acid (H_2SO_4), trace metal grade
Nitrogen gas, grade 5 (ultra high purity)
Dry ice

Equipment

Whirl-paks
Shovel
Petit Ponar
5-gallon buckets with covers
Plastic spoons
Glass beakers or 1 gallon pickle jars (exposure vessels)
Aeration setup or water flow-through system
Water bath or temperature-controlled room
Parafilm or jar covers
Pipettor and pipet tips
Pump pipet filler and 1-cm diameter tube
Centrifuge tubes
Luer Lok filter, 0.45 µm
Syringe with polypropylene plunger, 10 mL
Blue ice packs

Procedure

Note: See main report **Table 1** for experiment-specific parameters (e.g., exposure vessel, sediment, and overlying water volumes, overlying water salinity, temperature, equilibration period length)

1. Collect sediment in 5-gallon buckets from sampling locations to be used for THg (Experiment B) %LOI characterization (Experiment C), test organism survivability tests (if needed), and the time series experiments. Approximately 10 gallons should be collected per time series. Sediment from shallow-water locations can be collected with a shovel while sediment from deeper-water locations may need to be collected using a Petit

Ponar, or other deep-water equipment. For the THg and %LOI, characterization, place sediment into whirl-paks, freeze, and ship to analytical laboratory.

2. Experiment B only: prior to shipment to testing facility, blend sediment as needed from different collection locations in order to achieve similar concentrations of Hg (< 50% difference) among time series while maintaining different organic carbon contents. Create a fourth time series by mixing activated carbon amendment (2.5% activated carbon on a dry weight basis) and sediment.
3. Experiment C only: prior to shipment to testing facility, blend sediment as needed from different collection locations in order to achieve similar concentrations of OC (< 50% difference) among time series while maintaining different Hg concentrations.
4. Ship sediment to the test facility
5. Store sediment at 4°C in the dark.
6. Three weeks prior to DGT and test organism deployment, homogenize the sediment with a shovel and remove any large rocks or sticks.
7. Add homogenized sediment to exposure vessel. Monitor the degree of settling during the first few hours, adding additional sediment, as needed to maintain the correct volume of sediment in the beaker.
8. Cover sediment with reconstituted seawater or reconstituted freshwater or dechlorinated tap water, taking care not to disturb the sediment surface.
9. Cover the exposure vessels with parafilm or jar covers for the duration of the experiment.
10. Place exposure vessels in a water bath or a temperature-controlled room and maintain a constant temperature.
11. Continuously aerate or flow-through the overlying water for the equilibration period prior to DGT and test organism deployment to establish sediment equilibrium. Two days prior to adding test organisms, exchange the overlying water in each exposure vessel. On the first and last time point of each time series, collect sediment from one exposure vessel prior to removing the test organisms. Collect sediment using an acid-washed 1-cm diameter tube fitted on a pump pipet filler. Add two full sediment depths to a centrifuge tube(s) in a glove bag with an overpressure of nitrogen gas. Tightly cover the centrifuges tube(s). Centrifuge the sediment for 15 minutes at 4200 rpm outside of the glove bag. In the glove bag, decant the porewater from the centrifuge tube(s) into a syringe fitted with a filter and filter into a clean centrifuge tube. Pipet 2 mL of the filtered porewater into another clean centrifuge tube. Preserve the porewater with 0.4% HCl for freshwater samples or 0.2% H_2SO_4 for saline samples and store at 0-4°C until shipment. For a porewater blank, filter Milli-Q® water through a new syringe fitted with a new filter into a clean centrifuge tube. Pipet 2 mL of the filtered Milli-Q® water into another clean centrifuge tube. Preserve with 0.4% HCl for blanks associated with freshwater samples or 0.2% H_2SO_4 for blanks associated with saline samples and store at 0-4°C until shipment. Freeze sediment samples in the centrifuge tubes immediately after decanting the porewater. Also collect one full sediment depth with the tube and pump pipet filler into a whirl-pak for AVS analysis and freeze immediately. After the organisms and DGTs have been removed from the beakers, fill one 8-ounce amber glass container with sediment for

TOC analysis. Minimum sample volume/mass is 20 g for sediment Hg, MeHg, and Total Solids analysis, 10 g for sediment AVS, 50 g for sediment TOC, and 2 mL for porewater Hg and MeHg.

12. Ship the porewater (Hg and MeHg) and amber glass jar (TOC) on blue ice and the sediment in the centrifuge tube (Hg, MeHg, Total Solids) and whirl-pack sediment (AVS) on dry ice to the analytical laboratory.

Appendix C.3. Sediment Collection and Processing Procedures for Intact Core Experiments

The following procedure describes sediment collection and processing for intact core exposure experiments.

Reagents

Reconstituted seawater (Crystal Sea® Marinemix)
Deionized water
Trace metal grade hydrochloric acid (HCl)
Sulfuric acid (H_2SO_4), trace metal grade
Nitrogen gas, grade 5 (ultra high purity)
Ice
Dry Ice

Equipment

PVC pipe (Home Depot; Model # SESC600; 6.625” O.D., 7.5” height)
PVC pipe caps (Home Depot; Model # 270784)
Flat-head screw driver
Plastic bucket (McMaster Carr; 2-gallon, cat # 4269T32)
Shovel
Cooler
Whirl-paks
Drip aeration setup
Temperature-controlled room
Pump pipet filler and 1-cm diameter tube
Centrifuge tubes
Luer Lok filter, 0.45 µm
Syringe with polypropylene plunger, 10 mL
Blue ice packs

Procedure

Note: See main report **Table 1** for experiment-specific parameters (e.g., overlying water salinity, temperature, equilibration period length)

1. In the field, collect sediment cores by pushing the PVC pipe into undisturbed sediment until the sediment is near the top of the PVC pipe. Cap the top of the core and remove it from the sediment, keeping the core as upright as possible. If necessary, a shovel may be used to move sediment away from the outside of the core during removal. Cap the bottom of the core once it is removed from the sediment and tighten caps. Rinse the outside of the core with DI water and immediately pack upright in a cooler with ice. Ship cores experiment laboratory.

2. Store cores at 4°C in the lab before use.

3. Prior to the deployment portion of the experiment, collect sediment from each core for sediment total Hg and TOC analyses. This will be used to determine if a subset of the original collected cores should be used for deployment based on variability of the chemistry data. Collect sediment from the top 8 cm of each core using an acid-washed (5% HCl) 1-cm diameter tube fitted on a pump pipet filler. Take care to cause minimal disturbance to the sediment in the core. Pipet a minimum of 20 g from each core for sediment total Hg into centrifuge tubes and a minimum of 50 g from each core for sediment TOC into 8-ounce amber glass containers.

4. Based on the total Hg and TOC results from step 3, a subset of the original cores from each site may be selected for deployment if there is a low variability in chemistry among the cores. Continue to step 5 with the selected cores.

5. Conduct the experiment in a temperature-controlled room and maintain a constant temperature of 15±1°C. Place each core in a 2-gallon bucket and fill the bucket with reconstituted seawater. Continuously exchange/aerate the overlying water throughout the experiment using a dripping water aeration setup. Prior to hydrogel and organism deployment, keep the cores at 15±1°C, while aerating the overlying water, for at least 1 week.

6. On the take-down day and just prior to removing the hydrogels and organisms, collect sediment from each core using an acid-washed (5% HCl) 1-cm diameter tube fitted on a pump pipet filler. Take care not to take sediment samples near the hydrogel window. For sediment Hg and MeHg and porewater MeHg analysis, add three full 8-cm sediment depths (the full depth of the hydrogel window) with a tube and pump pipet filler into a centrifuge tube in glove bag with an overpressure of nitrogen gas and tightly cover the tube. Centrifuge the sediment for 15 minutes at 4200 rpm outside of the glove bag. In the glove bag, decant the porewater from the centrifuge tube(s) into a syringe fitted with a filter and filter into a clean centrifuge tube. Pipet 2 mL of the filtered porewater into another clean centrifuge tube. Preserve the porewater with 0.2% H_2SO_4 and store at 0-4°C until shipment. For a porewater blank, filter Milli-Q® water through a new syringe fitted with a new filter into a clean centrifuge tube. Pipet 2 mL of the filtered Milli-Q® water into another clean centrifuge tube. Preserve with 0.2% H_2SO_4 and store at 0-4°C until shipment. Also collect one full 8-cm sediment depth from the same cores with the tube and pump pipet filler into a whirl-pak for AVS analysis. Freeze both sediment samples immediately. After the organisms and hydrogels have been removed from the beakers, fill one 8-ounce amber glass container with sediment from the same cores for TOC analysis. Minimum sample mass/volume is 20 g for sediment Hg, MeHg, and Total Solids analysis, 10 g for sediment AVS, 50 g for sediment TOC, and 2 mL for porewater MeHg.

7. Ship the amber glass jar (TOC) and porewater samples on blue ice and the sediment in the centrifuge tube (Hg, MeHg, Total Solids) and whirl-pak sediment (AVS) on dry ice to analytical laboratory.

Appendix C.4. Organism Bioaccumulation Assay Procedures

C.4.1. *Macoma nasuta* Bioaccumulation Assay Procedure

The following procedure describes *Macoma nasuta* deployment and recovery in sediment.

Test Organisms

M. nasuta (1 or 2 organism/exposure vessel)

Reagents

Reconstituted seawater (Crystal Sea® Marinemix prepared with deionized water), 30‰
Deionized water
Dry Ice
Nesslers reagent
Polyvinyl alcohol dispersing agent
Mineral stabilizer reagent

Equipment

Acclimation tub
Aeration setup or water flow-through system
Water bath or temperature-controlled room
Equilibrated exposure vessels or intact core
Light source
Scalpel
Dissolved oxygen and pH meter
Hand-held refractometer
Hach DR 2000
Porewater collection well
Blotting paper (Kim Wipes)
Parafilm or jar cover
Scale
Centrifuge tubes
Zip-top bags
Freezer
Styrofoam shipping container

Background Mercury

Prior to conducting the survivability and bioaccumulation tests, obtain three *M. nasuta* from the vendor and analyze the tissue for THg and MeHg. Analyses:

- Hg: EPA 1631
- MeHg: EPA 1630

Organism Acclimation

2. Receive organisms from vendor prior to the start of the survivability or bioaccumulation test.
3. Acclimate organisms gradually (no more than 1°C/hour) for 24 hours in a tub of reconstituted seawater until 15°C is reached.
4. Aerate water to maintain dissolved oxygen above 60% saturation (~6 mg/L).

Survivability Test[1]

1. Add 100 mL of homogenized sediment to a 300-mL beaker (exposure vessel). Add 175 mL of reconstituted seawater over the sediment, minimizing disturbance to the sediment surface.
2. Add one individual per exposure vessel.
3. Test parameters:
    - Test duration: 10 days
    - Photoperiod: 16L:8D
    - Cover the beaker with parafilm throughout the duration of the test
    - Measure dissolved oxygen daily and aerate or continuously flow-through (2 water exchanges per day) the overlying water to maintain a dissolved oxygen level above 60% saturation (~6 mg/L)
    - Test temperature: 15°C. Maintain a daily mean temperature within 1°C of 15°C by placing the exposure vessels in a water bath or temperature-controlled room
    - Check exposure vessels daily for organism sediment avoidance or mortality.
    - Measure conductivity, hardness, pH, alkalinity, and ammonia 1 to 2 inches above the water surface at the beginning and end of each test
    - Organisms should not be fed during the test.

Bioaccumulation Test

1. Add 2 L of homogenized sediment to the exposure vessel. Add 1.5 L of reconstituted seawater over the sediment, minimizing disturbance to the sediment surface. For Experiment D, place intact core in a bucket filled with the overlying water.
2. Cover the exposure vessel with parafilm or jar cover.
3. Place exposure vessel in water bath or temperature controlled room and equilibrate under experimental conditions for at least two weeks.
4. On test Day 0, collect 3 samples (1 individual/sample) from the organism acclimation tub as blank tissue samples. Remove the tissue from the shell, place on blotting paper to remove excess moisture, and then record tissue mass of each sample. Keep samples frozen until analysis, shipping on dry ice.

[1] *M. nasuta* survivability test was not conducted prior to Experiment A.

5. On test Day 0 add one (Experiments A and D) or two (Experiments B) individuals to each test exposure vessel by placing them gently on the sediment surface. Add 2 individuals to the back-up exposure vessel.
6. Test parameters:
    - Photoperiod: 16L:8D
    - Cover the beaker with parafilm or jar cover throughout the duration of the test
    - Salinity: 30‰
    - Measure dissolved oxygen daily and maintain a level above 60% saturation (~6 mg/L) by aerating moderately or continuously flowing through (2 water exchanges per day). Dissolved oxygen is measured with a dissolved oxygen meter.
    - Test temperature: 15°C. Maintain a daily mean temperature within 1°C of 15°C by placing the exposure vessels in a water bath or temperature-controlled room
    - Check exposure vessels daily for organism sediment avoidance
    - Measure salinity, pH (maintain between 6 and 8.5), and ammonia (maintain <20 µg/L unionized ammonia) in the overlying water and porewater on Day 0 and on sample collection days in each exposure vessel. Increase aeration if water quality falls outside of these ranges. Exchange the overlying water if aeration does not bring the parameters back within these ranges. For ammonia measurements, collect 20 mL of water from the overlying water or porewater collection well (placed in contact with the bottom of the exposure vessel and sampling from 1.5-3 inches from the bottom of the vessel). Salinity is measured using a hand-held refractometer. pH is measured with a pH meter. Ammonia is measured using the Hach Nessler method (equipment: Hach DR 2000; reagents: Nesslers reagent, polyvinyl alcohol dispersing agent, and mineral stabilizer reagent).
    - If an individual test organism fails to bury into the sediment or shows signs of mortality, remove that individual from the test vessel and use the test vessel as the next sampling point.
    - Organisms should not be fed during the test.
    - Exposure duration: 55 days (Experiment A), 35 days (Experiment B), 14 days (Experiment D)
7. To end the test, retrieve organisms from exposure vessels on specified days (see **Table 1** of the main report). If an individual was removed from a test vessel due to failure to bury or other signs of mortality, retrieve one individual (if available) from the back-up vessel on the retrieval day, making note of the substitution. Rinse sediment off of organisms with reconstituted seawater. Do not composite individual samples.
8. Transfer live organisms to a 1-L beaker containing reconstituted seawater, and hold for 24 hours for gut purging. Aerate the overlying water or continuously flow-through (2 water exchanges per day) to maintain a level above 60% saturation (~6 mg/L).

9. Remove the tissue from the shell with a scalpel and weigh the tissue sample. Store frozen in a centrifuge tube until shipment for analysis. Ship on dry ice to analytical laboratory.
10. Analyses:
    - Hg: EPA 1631
    - MeHg: EPA 1630

C.4.2. *Nereis virens* Bioaccumulation Assay Procedure

The following procedure describes *Nereis virens* deployment and recovery in sediment.

Test Organisms

N. virens (1 organism/exposure vessel)

Reagents

Reconstituted seawater (Crystal Sea® Marinemix prepared with deionized water), 30‰
Deionized water
Dry Ice
Nesslers reagent
Polyvinyl alcohol dispersing agent
Mineral stabilizer reagent

Equipment

Acclimation tub
Aeration setup or water flow-through system
Water bath or temperature-controlled room
Equilibrated exposure vessels
Light source
Dissolved oxygen and pH meter
Hand-held refractometer
Hach DR 2000
Porewater collection well
Blotting paper (Kim Wipes)
Parafilm or jar cover
Scale
Centrifuge tubes
Zip-top bags
Freezer
Styrofoam shipping container

Background Mercury

Prior to conducting the survivability and bioaccumulation tests, obtain three *N. virens* from the vendor and analyze the tissue for THg and MeHg. Analyses:

- Hg: EPA 1631
- MeHg: EPA 1630

Organism Acclimation

1. Receive organisms from vendor prior to the start of the bioaccumulation test.
2. Acclimate organisms gradually (no more than 1°C/hour) for 24 hours in a tub of reconstituted seawater until 23°C is reached.

3. Aerate water to maintain dissolved oxygen above 60% saturation (~6 mg/L).

Bioaccumulation Test

1. Add 2 L of homogenized sediment to the exposure vessel. Add 1.5 L of reconstituted seawater over the sediment, minimizing disturbance to the sediment surface.
2. Cover the exposure vessel with parafilm or jar cover.
3. Place exposure vessel in water bath and equilibrate under experimental conditions for at least two weeks.
4. On test Day 0, collect 3 samples (1 individual/sample) from the organism acclimation tub as blank tissue samples. Place on blotting paper to remove excess moisture, and then record tissue mass of each sample. Keep samples frozen until analysis, shipping on dry ice.
5. On test Day 0 add 1 individual to each test exposure vessel by placing them gently on the sediment surface. Add 1 individual to the back-up exposure vessel.
6. Test parameters:
    - Photoperiod: 16L:8D
    - Cover the beaker with parafilm or jar cover throughout the duration of the test
    - Salinity: 30‰
    - Measure dissolved oxygen daily and maintain a level above 60% saturation (~6 mg/L) by aerating moderately or continuously flowing through (2 water exchanges per day). Dissolved oxygen is measured with a dissolved oxygen meter.
    - Test temperature: 23°C. Maintain a daily mean temperature within 1°C of 23°C by placing the exposure vessels in a water bath or temperature-controlled room
    - Check exposure vessels daily for organism sediment avoidance
    - Measure salinity, pH (maintain between 6 and 8.5), and ammonia (maintain <20 µg/L unionized ammonia) in the overlying water and porewater on Day 0 and on sample collection days in each exposure vessel. Increase aeration if water quality falls outside of these ranges. Exchange the overlying water if aeration does not bring the parameters back within these ranges. For ammonia measurements, collect 20 mL of water from the overlying water or porewater collection well (placed in contact with the bottom of the exposure vessel and sampling from 1.5-3 inches from the bottom of the vessel). Salinity is measured using a hand-held refractometer. pH is measured with a pH meter. Ammonia is measured using the Hach Nessler method (equipment: Hach DR 2000; reagents: Nesslers reagent, polyvinyl alcohol dispersing agent, and mineral stabilizer reagent).
    - Organisms should not be fed during the test.
    - Exposure duration: 55 days

7. To end the test, retrieve organisms from exposure vessels on specified days (see **Table 1** of the main report). If an individual was removed from a test vessel due to failure to bury or other signs of mortality, retrieve one individual (if available) from the back-up vessel on the retrieval day, making note of the substitution. Rinse sediment off of organisms with reconstituted seawater. Do not composite individual samples.
8. Transfer live organisms to a 1-L beaker containing reconstituted seawater, and hold for 24 hours for gut purging. Aerate the overlying water or continuously flow-through (2 water exchanges per day) to maintain a level above 60% saturation (~6 mg/L).
9. Weigh the tissue sample. Store frozen in a centrifuge tube until shipment for analysis. Ship on dry ice to analytical laboratory.
10. Analyses:
    - Hg: EPA 1631
    - MeHg: EPA 1630

C.4.3. *Leptocheirus plumulosus* Bioaccumulation Assay Procedure

The following procedure describes *Leptocheirus plumulosus* deployment and recovery in sediment.

Test Organisms

L. plumulosus (approximately 50 organism or 0.2 grams/exposure vessel; individuals passing through a 1.7 mm and retained on a 1 mm sieve)

Reagents

Reconstituted seawater (Crystal Sea® Marinemix prepared with deionized water), 20‰
Deionized water
Dry Ice
Nesslers reagent
Polyvinyl alcohol dispersing agent
Mineral stabilizer reagent

Equipment

Acclimation tub
Aeration setup or water flow-through system
Water bath or temperature-controlled room
Equilibrated exposure vessels
Light source
Dissolved oxygen and pH meter
Hand-held refractometer
Hach DR 2000
Porewater collection well
Blotting paper (Kim Wipes)
Parafilm or jar cover
Scale
Centrifuge tubes
Zip-top bags
Freezer
Styrofoam shipping container

Background Mercury

Prior to conducting the survivability and bioaccumulation tests analyze *L. plumulosus* tissue for THg and MeHg. Analyses:

- Hg: EPA 1631
- MeHg: EPA 1630

Organism Acclimation

1. *L. plumulosus* are cultured on site prior to the start of the bioaccumulation test.

2. Acclimate organisms gradually (no more than 1°C/hour) for 24 hours in a tub of reconstituted seawater until 23°C is reached.
3. Aerate water to maintain dissolved oxygen above 60% saturation (~6 mg/L).

Bioaccumulation Test

1. Add 0.8 L of homogenized sediment to the exposure vessel. Add 1 L of reconstituted seawater over the sediment, minimizing disturbance to the sediment surface.
2. Cover the exposure vessel with parafilm or jar cover.
3. Place exposure vessel in water bath and equilibrate under experimental conditions for at least two weeks.
4. On test Day 0, collect 3 samples (approximately 0.2 grams/sample) from the organism acclimation tub as blank tissue samples. Place on blotting paper to remove excess moisture, and then record tissue mass of each sample. Keep samples frozen until analysis, shipping on dry ice.
5. On test Day 0 add approximately 50 individuals or 0.2 grams to each test exposure vessel by placing them gently on the sediment surface. Add the same sample size to the back-up exposure vessel.
6. Test parameters:
    - Photoperiod: 16L:8D
    - Cover the beaker with parafilm or jar cover throughout the duration of the test
    - Salinity: 20‰
    - Measure dissolved oxygen daily and maintain a level above 60% saturation (~6 mg/L) by aerating moderately or continuously flowing through (2 water exchanges per day). Dissolved oxygen is measured with a dissolved oxygen meter.
    - Test temperature: 23°C. Maintain a daily mean temperature within 1°C of 23°C by placing the exposure vessels in a water bath or temperature-controlled room
    - Check exposure vessels daily for organism sediment avoidance
    - Measure salinity, pH (maintain between 6 and 8.5), and ammonia (maintain <20 µg/L unionized ammonia) in the overlying water and porewater on Day 0 and on sample collection days in each exposure vessel. Increase aeration if water quality falls outside of these ranges. Exchange the overlying water if aeration does not bring the parameters back within these ranges. For ammonia measurements, collect 20 mL of water from the overlying water or porewater collection well (placed in contact with the bottom of the exposure vessel and sampling from 1.5-3 inches from the bottom of the vessel). Salinity is measured using a hand-held refractometer. pH is measured with a pH meter. Ammonia is measured using the Hach Nessler method (equipment: Hach DR 2000; reagents: Nesslers reagent, polyvinyl alcohol dispersing agent, and mineral stabilizer reagent).
    - Exposure vessels receive supplemental food as 20 mg TetraMin twice weekly.

- Exposure duration: 28 days

7. To end the test, retrieve organisms from exposure vessels on specified days (see **Table 1** of the main report). Rinse sediment off of organisms with reconstituted seawater. Do not composite individual samples.
8. Transfer live organisms to a 1-L beaker containing reconstituted seawater, and hold for 4 hours for gut purging.
9. Weigh the tissue sample. Store frozen in a centrifuge tube until shipment for analysis. Ship on dry ice to analytical laboratory.
10. Analyses:
    - Hg: EPA 1631
    - MeHg: EPA 1630

C.4.4. *Lumbriculus variegatus* Bioaccumulation Assay Procedure

The following procedure describes *Lumbriculus variegatus* deployment and recovery in sediment.

Test Organisms

L. variegatus (1 g)

Reagents

Reconstituted freshwater or dechlorinated tap water
Deionized water
Dry Ice
Nesslers reagent
Polyvinyl alcohol dispersing agent
Mineral stabilizer reagent

Equipment

Acclimation tub
Aeration setup or water flow-through system
Water bath or temperature-controlled room
300-mL beaker
1-L beakers
Equilibrated exposure vessels
Light source
Parafilm or jar covers
Spoon for homogenization (plastic)
Dissolved oxygen and pH meter
Hand-held refractometer
Hach DR 2000
U.S. standard sieve #40 (425-µm mesh) or #60 (250-µm mesh)
Shallow pan
Scale
Centrifuge tubes
Freezer
Styrofoam shipping container

Background Mercury

Prior to conducting the survivability and bioaccumulation tests, obtain 200 g (approximately 400-500 individuals) of *L. variegatus* from the vendor and analyze the tissue for THg and MeHg. Analyses:

- Hg: EPA 1631

- MeHg: EPA 1630

Organism Acclimation

1. Receive organisms from vendor prior to the start of the survivability or bioaccumulation test.
2. Acclimate organisms gradually (no more than 1°C/hour) in a tub of reconstituted freshwater until 23°C is reached.
3. Aerate water to maintain a dissolved oxygen level above 2.5 mg/L.

Survivability Test

1. Add 100 mL of homogenized experiment sediment and 100 mL of control sediment to 300-mL beakers (exposure vessels). Add 175 mL of reconstituted freshwater or dechlorinated tap water over the sediments, minimizing disturbance to the sediment surface.
2. Add 10 adult individuals per exposure vessel.
3. Test parameters:
    - Test duration: 10 days
    - Photoperiod: 16L:8D
    - Cover the beaker with parafilm or jar lids throughout the duration of the test
    - Measure dissolved oxygen daily and aerate the overlying water to maintain a dissolved oxygen level above 2.5 mg/L
    - Test temperature: 23°C. Maintain a daily mean temperature within 1°C of 23°C or an instantaneous temperature within 3°C of 23°C by placing the exposure vessels in a water bath or temperature-controlled room
    - Check exposure vessels daily for organism sediment avoidance.
    - Measure conductivity, hardness, pH, alkalinity, and ammonia 1 to 2 inches above the water surface at the beginning and end of each test (Day 0 and Day 10)
    - Determine number of individuals that survive following the test (Day 10). Reduction in number of individuals should not be significant when compared to those in the control sediment.
    - Organisms should not be fed during the test.

Bioaccumulation Test

1. Conduct the bioaccumulation test following the survivability test.
2. Two weeks prior to the addition of organisms, homogenize the sediment and add 2 L of sediment to each 4-L beaker, making sure to compensate for any volume reduction caused by settling. Add 1 L of reconstituted freshwater or dechlorinated tap water over the sediment, minimizing disturbance to the sediment surface. Cover the exposure vessel with parafilm or a jar cover and continuously aerate or flow-through the overlying water.

Two days prior to adding the organisms, exchange the overlying water. The three-week period establishes equilibrium within the sediment.

3. On test Day 0, collect 3 samples (1 g/sample) from the organism acclimation tub as blank tissue samples. Record the exact tissue mass and number of individuals of each sample. Keep samples frozen until analysis, shipping on dry ice.
4. On test Day 0, add 1 g of test organisms to each test exposure vessel.
5. Test parameters:
    - Photoperiod: 16L:8D
    - Cover the exposure vessels with parafilm or a jar cover throughout the duration of the test
    - Salinity: 0‰
    - Measure dissolved oxygen daily and aerate the overlying water to maintain a dissolved oxygen level above 2.5 mg/L throughout the test. Dissolved oxygen is measured with a dissolved oxygen meter.
    - Test temperature: 23°C. Maintain a daily mean temperature within 1°C of 23°C or an instantaneous temperature within 3°C of 23°C by placing the exposure vessels in a water bath or temperature-controlled room
    - Check exposure vessels daily for organism sediment avoidance
    - Measure conductivity, hardness, pH, alkalinity, and ammonia 1 to 2 cm above the water surface on Day 0 and at the end of a test. Exchange the overlying water if conductivity, hardness, alkalinity, and ammonia vary by more than 50% or pH is outside of the range of 7.8 to 8.2. pH is measured with a pH meter. Ammonia is measured using the Hach Nessler method (equipment: Hach DR 2000; reagents: Nesslers reagent, polyvinyl alcohol dispersing agent, and mineral stabilizer reagent).
    - Organisms should not be fed during the test.
    - Exposure duration: 54 days
6. To end the test, retrieve organisms from exposure vessels on specified days (see **Table 1** of the main report) by sieving the sediment through a U.S. standard sieve #40 (425-µm mesh) or #60 (250-µm mesh). Do not composite samples from different exposure vessels. Transfer the organisms to a shallow pan immediately following sieving to avoid loss of individuals through the screen.
7. Transfer live organisms to a 1-L beaker containing reconstituted fresh water or dechlorinated tap water, and hold for 6 hours for gut purging. Aerate the water if dissolved oxygen levels fall below 2.5 mg/L.
8. Weigh the entire sample. Store frozen in a centrifuge tube until shipment for analysis. Ship on dry ice to analytical laboratory.
9. Analyses:
    - Hg: EPA 1631

- MeHg: EPA 1630

Appendix C.5. Field Deployment and Recovery of DGTs

The following procedure describes DGT recovery from field sediment.

Reagents

Milli-Q® water
Sodium nitrate ($NaNO_3$), 0.1 M [Fisher Scientific S343-500]
Nitrogen gas, grade 5

Equipment

Disposable lab gloves
Water squirt bottle
Scissors or utility knife
¼" diameter nylon shock cord
Ziptop bags
Freezer
-20 degree ice packs
Cooler
Styrofoam shipping container

Deployment Procedure

NOTE: Minimize exposure time of DGTs to oxygen. Wear lab gloves when handling the DGTs. Avoid contact with the white filter paper of the DGT.

1. Deoxygenate DGTs in the laboratory following the procedure in Appendix C1. After 48 hours of deoxygenation, seal DGT deoxygenation bottles with tape and transport from the laboratory to the field site. Reconnect bottles to nitrogen to continue deoxygenation [Note: If facilities are available, the 48 hour deoxygenation procedure can occur at the field site. Otherwise, a small bottle of nitrogen gas can be used in the field to continue deoxygenation until deployment.]
2. Just before deployment, string together DGTs with ¼" diameter nylon shock cord through holes at the top of the DGTs, place in a zip-top bag, and hand to the divers.
3. Divers are to deploy the DGTs as quickly as possible to minimize exposure to oxygen. To deploy, gently insert the DGTs vertically in the sediment and ensure that the window of the DGTs are not facing each other.
4. Collect three unused DGTs for THg and MeHg blank analysis, storing in a freezer until shipment to analytical laboratory.
5. Ship DGTs to analytical laboratory in a Styrofoam shipping container or cooler with -20 degree ice packs or dry ice to ensure they remain frozen.

Recovery Procedure

NOTE: Conduct the following steps as quickly as possible to minimize the DGT transport time from sediment to freezer. Wear lab gloves when handling the DGTs. Avoid contact with the white filter paper of the DGT.

1. Following the deployment interval, a diver will retrieve the set of DGTs from the sediment by placing them in a ziptop bag to bring to the water surface. Record the date and time of retrieval.
2. Once the DGTs are at the surface, rinse both sides with Milli-Q® water from the water squirt bottle to remove any remaining sediment. Remove the line attaching the three DGTs by either cutting or untying it.
3. Place each DGT in a ziptop bag pre-labeled with the Sample ID. Place the bagged hydrogel in an outer ziptop bag (one outer bag per sample location). Record any discoloration on DGTs. If any damage has occurred to the DGT filter paper, record that as well.
4. Store DGTs in a freezer until shipment to analytical laboratory.
5. Ship DGTs to analytical laboratory in a Styrofoam shipping container or cooler with -20 degree ice packs or dry ice to ensure they remain frozen.